



Radial Cement Bond
Variable Density Log
W/Gamma Ray/CCL

Company		Noble Energy	
Well		Castor Federal LD15-74HN	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-37486	
SEC 15 TWP 9N RGE 58W		None	
Permanent Datum		Ground Level	
Log Measured From		Elevation	
Drilling Measured From		4707"	
Other Services		Elevation	
		K.B. 4737'	
		D.F. 4736'	
		G.L. 4707'	
Date		January 24th, 2014	
Run Number		1	
Depth Driller		9978'	
Depth Logger		5976'	
Bottom Logged Interval		5963'	
Top Log Interval		Surface	
Open Hole Size		8.125	
Type Fluid		Fresh Water	
Density / Viscosity		8.33	
Max. Recorded Temp.		214 °F	
Estimated Cement Top		1248'	
Time Well Ready		1030	
Time Logger on Bottom		1112	
Equipment Number		13033	
Location		Brighton	
Recorded By		Robert Grissom	
Witnessed By		B. Mansfield	
Borehole Record		Tubing Record	
Run Number		Bit	
From		To	
Size		Weight	
From		To	
One			
Two			
Three			
Four			
Casing Record		Size	
Surface String		9 5/8	
Prot. String		Wgt/Ft	
Production String		36#	
Liner		Top	
Short Joint		Bottom	
		1227'	
		Surface	
		6053'	
		Surface	
		5971'	
		9963'	
		4698'	
		4712'	

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Primary Log on Well. Well Logged using 30' KB.


Main Pass and Repeat Pass Logged with Zero Pressure on Surface

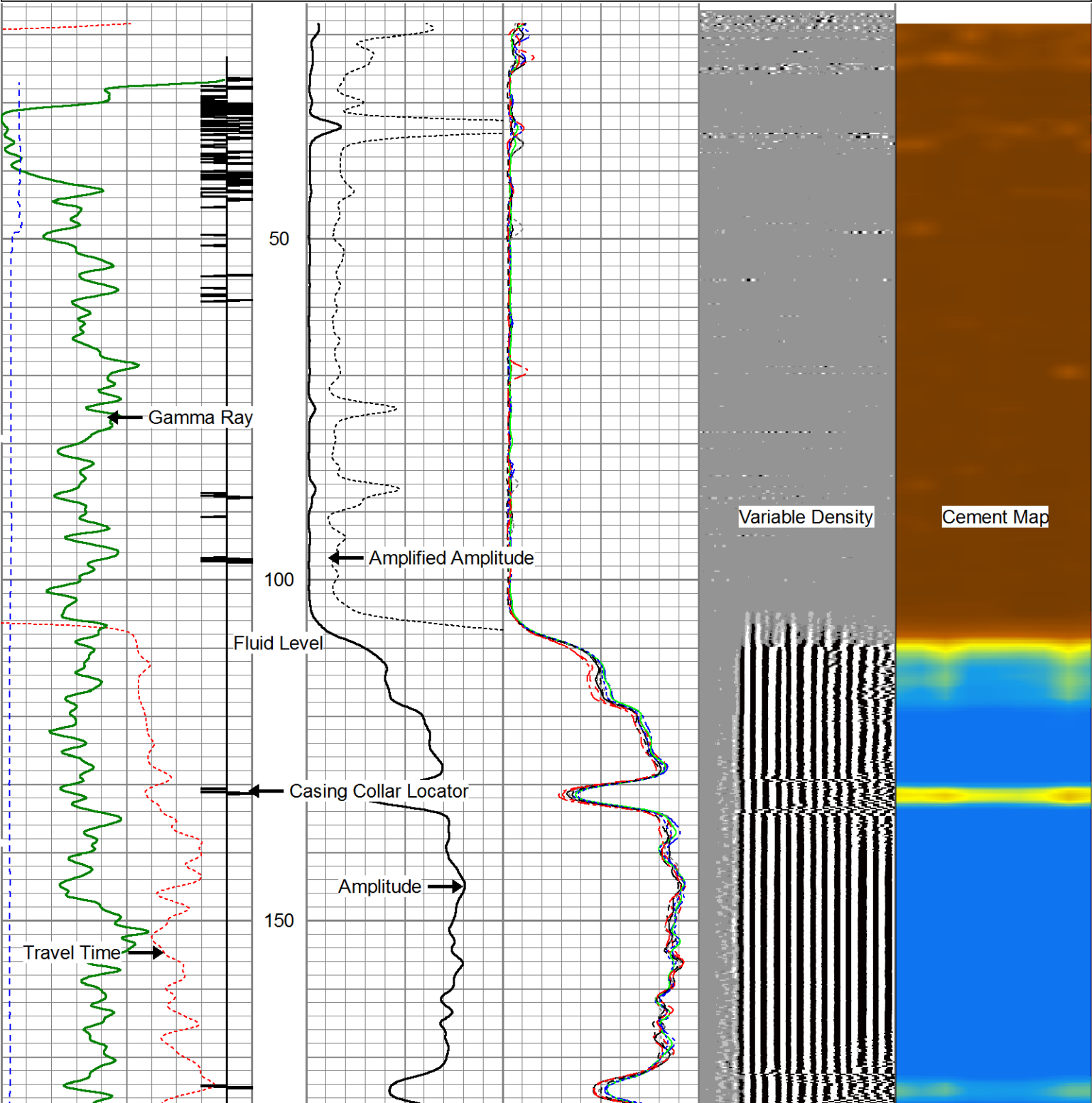
Estimated Top of Cement @1248'

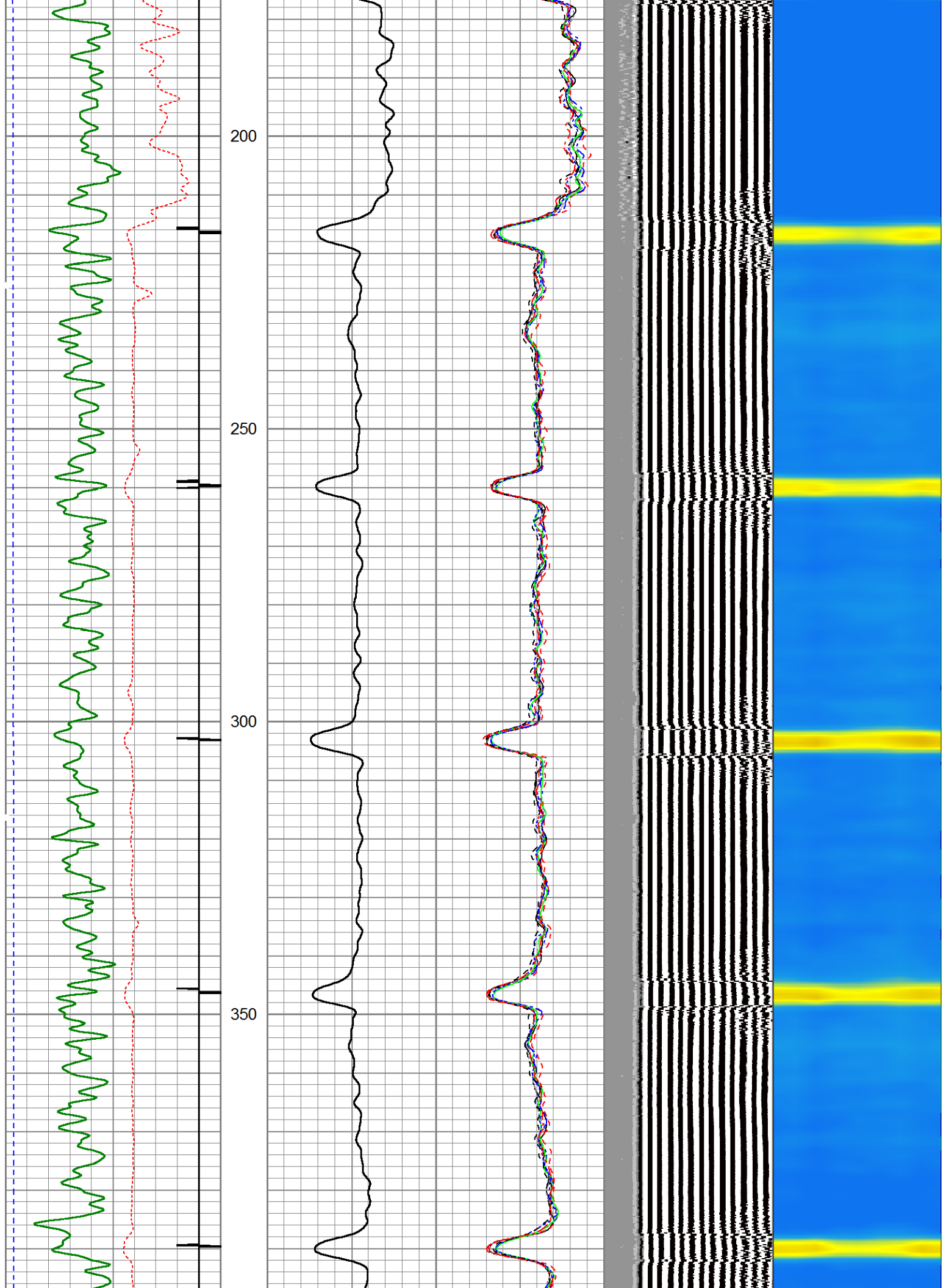
Thank you for using Allied Wireline
(303)659-4609

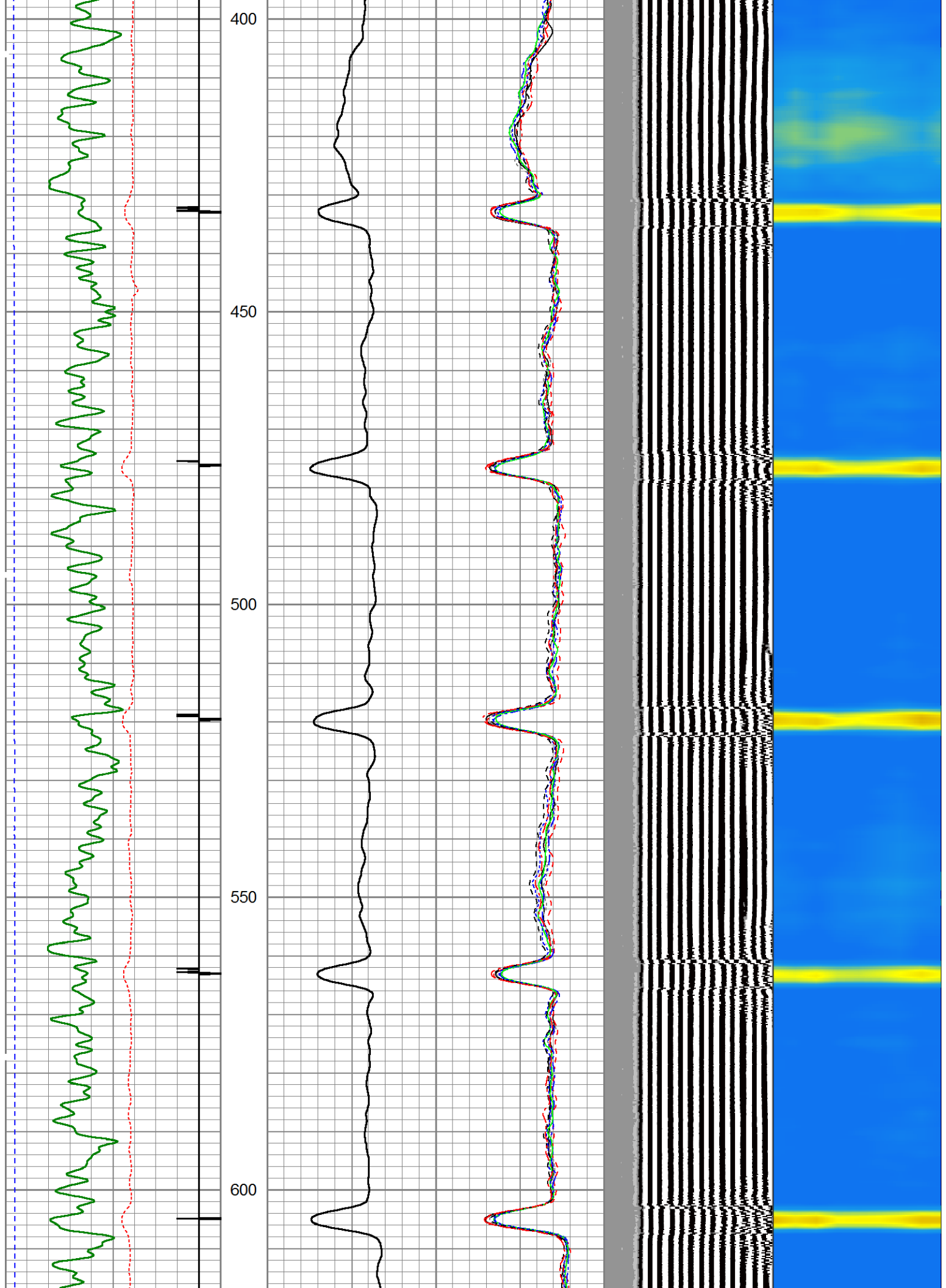


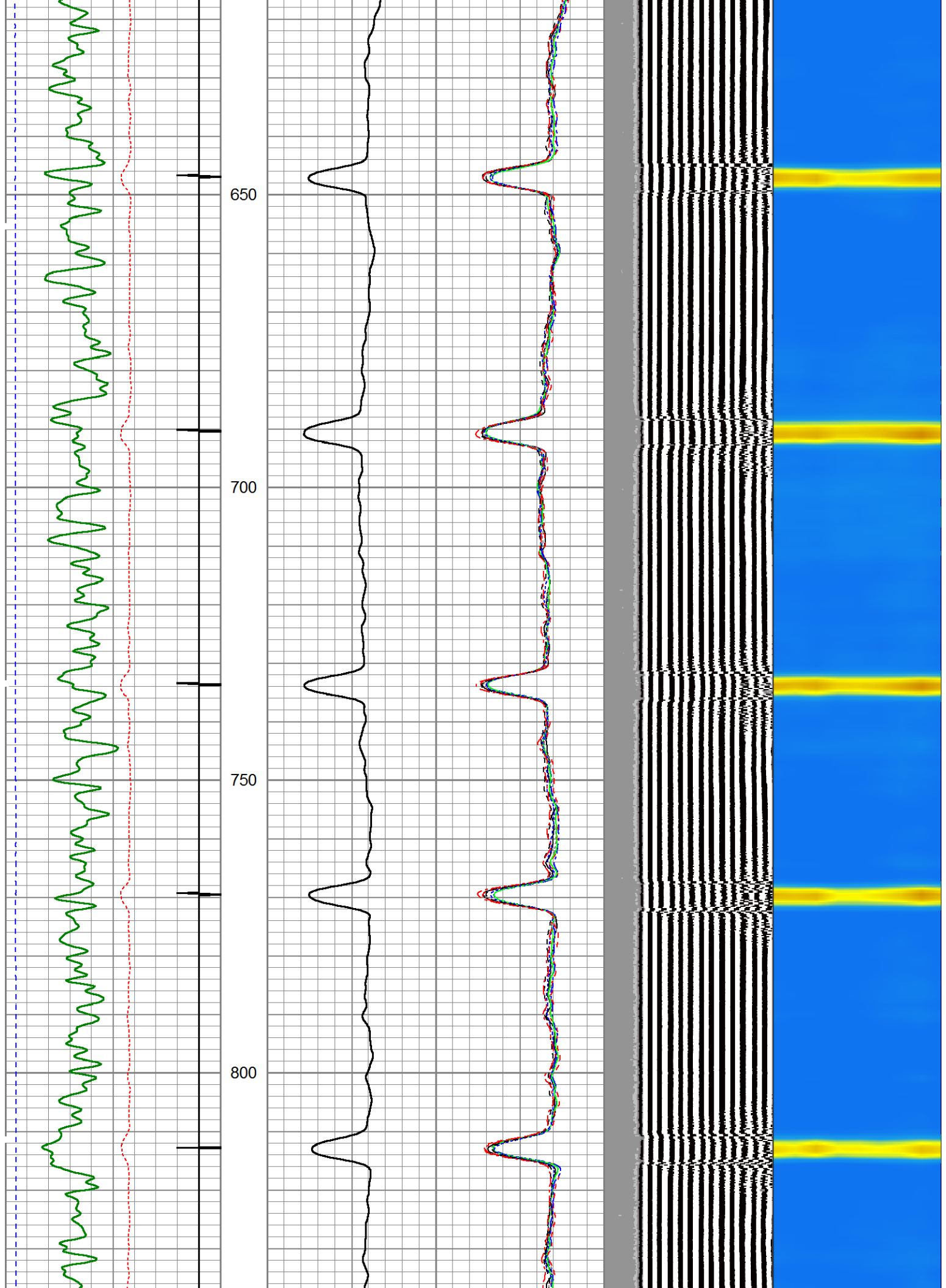
Main Pass (0 PSI)

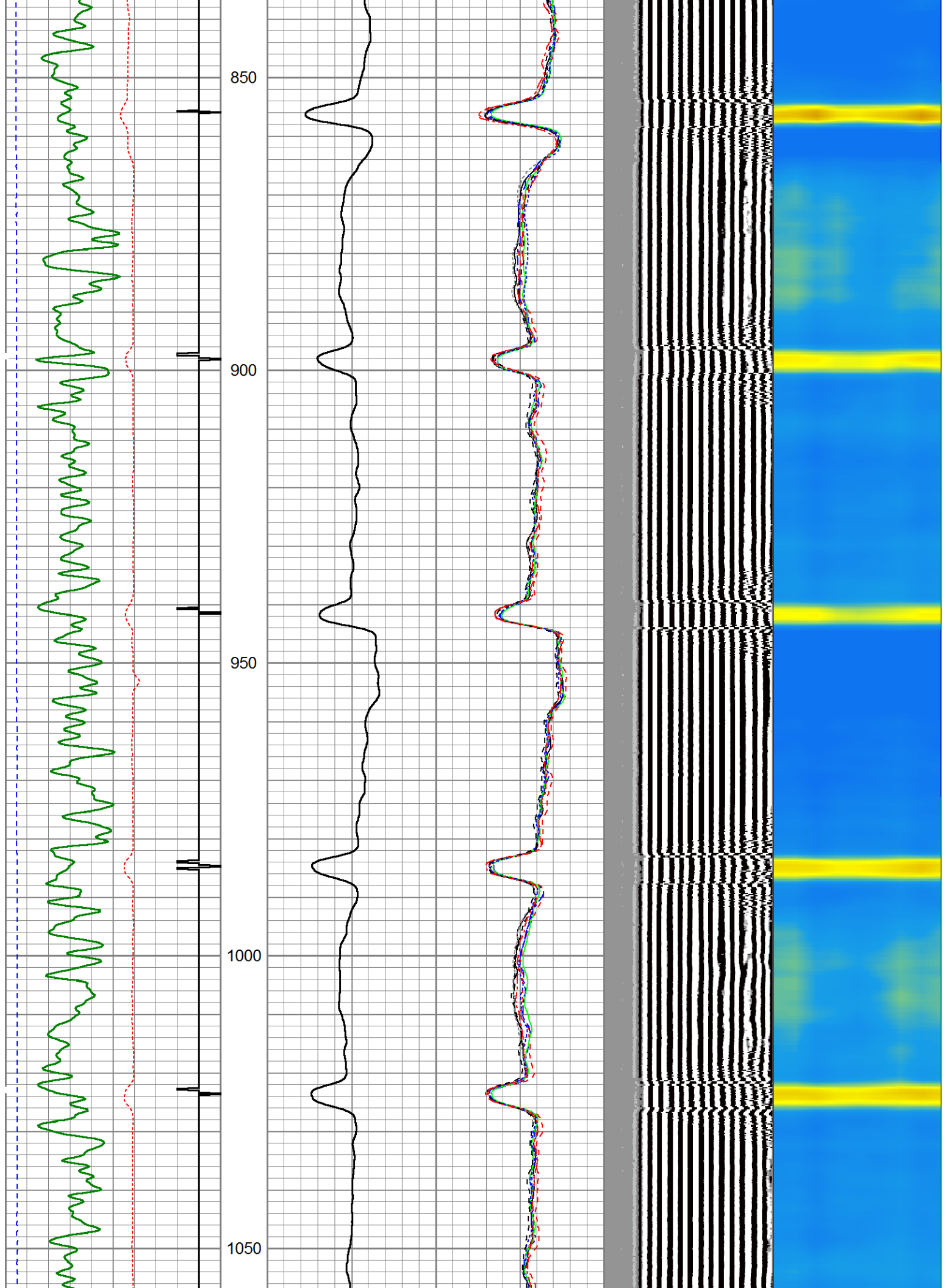
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Dataset Pathname: pass4.1													
Presentation Format: scbl03													
Dataset Creation: Fri Jan 24 12:20:14 2014 by Calc 0													
Charted by: Depth in Feet scaled 1:240													
400 Travel Time (usec) 200		0 Amplitude (mV)100		-5 AMPS1 150		Variable Density		1 Cement Map 8					
9 Casing Collar -1		Amplified Amplitude		-5 AMPS2 150		200 1200		0 100					
0 Gamma Ray (GAPI) 150		0 (mV) 10		-5 AMPS3 150									
0 Line Tension (lb) 5000				-5 AMPS4 150									
				-5 AMPS5 150									
				-5 AMPS6 150									
				-5 AMPS7 150									
				-5 AMPS8 150									

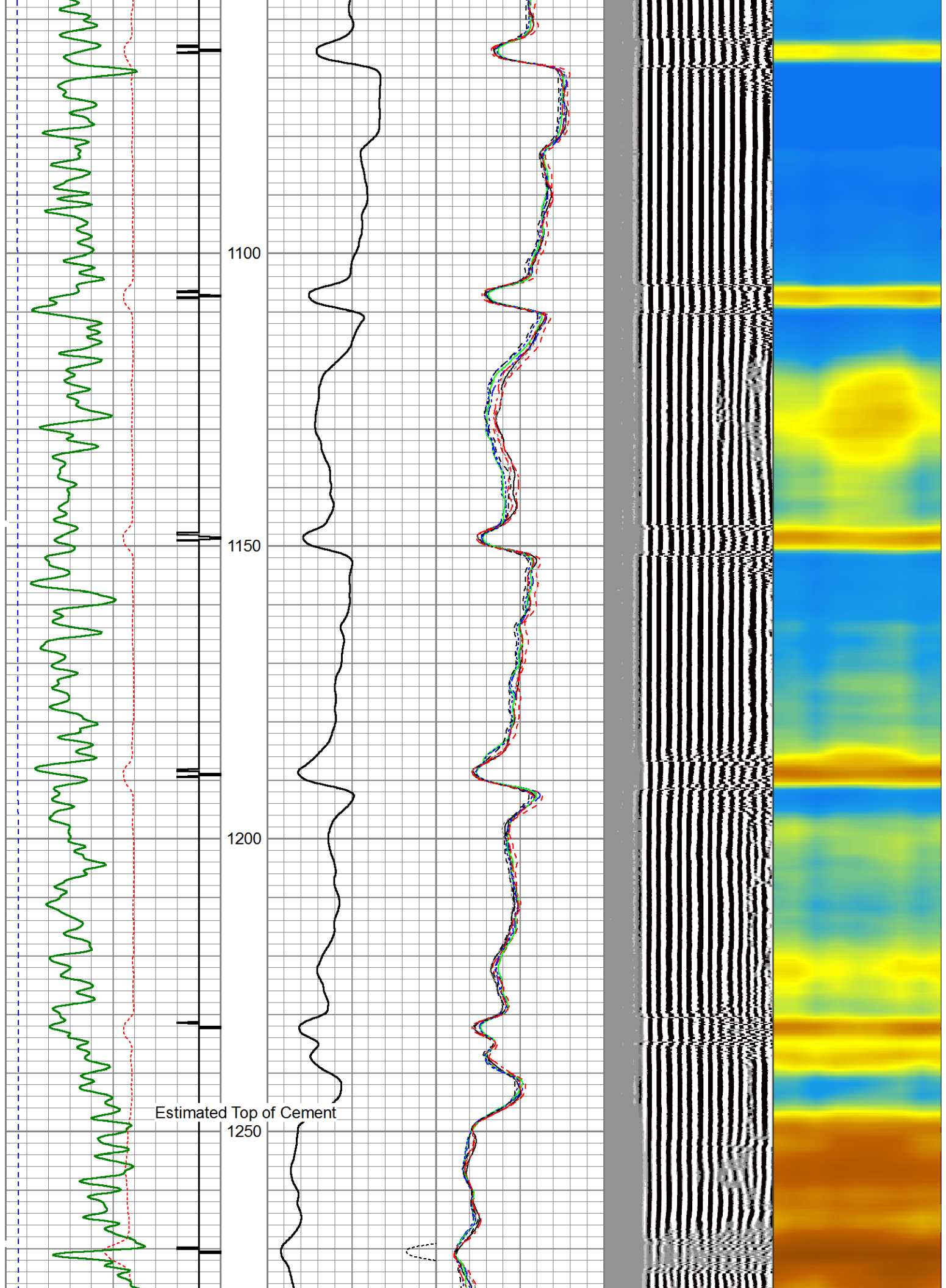


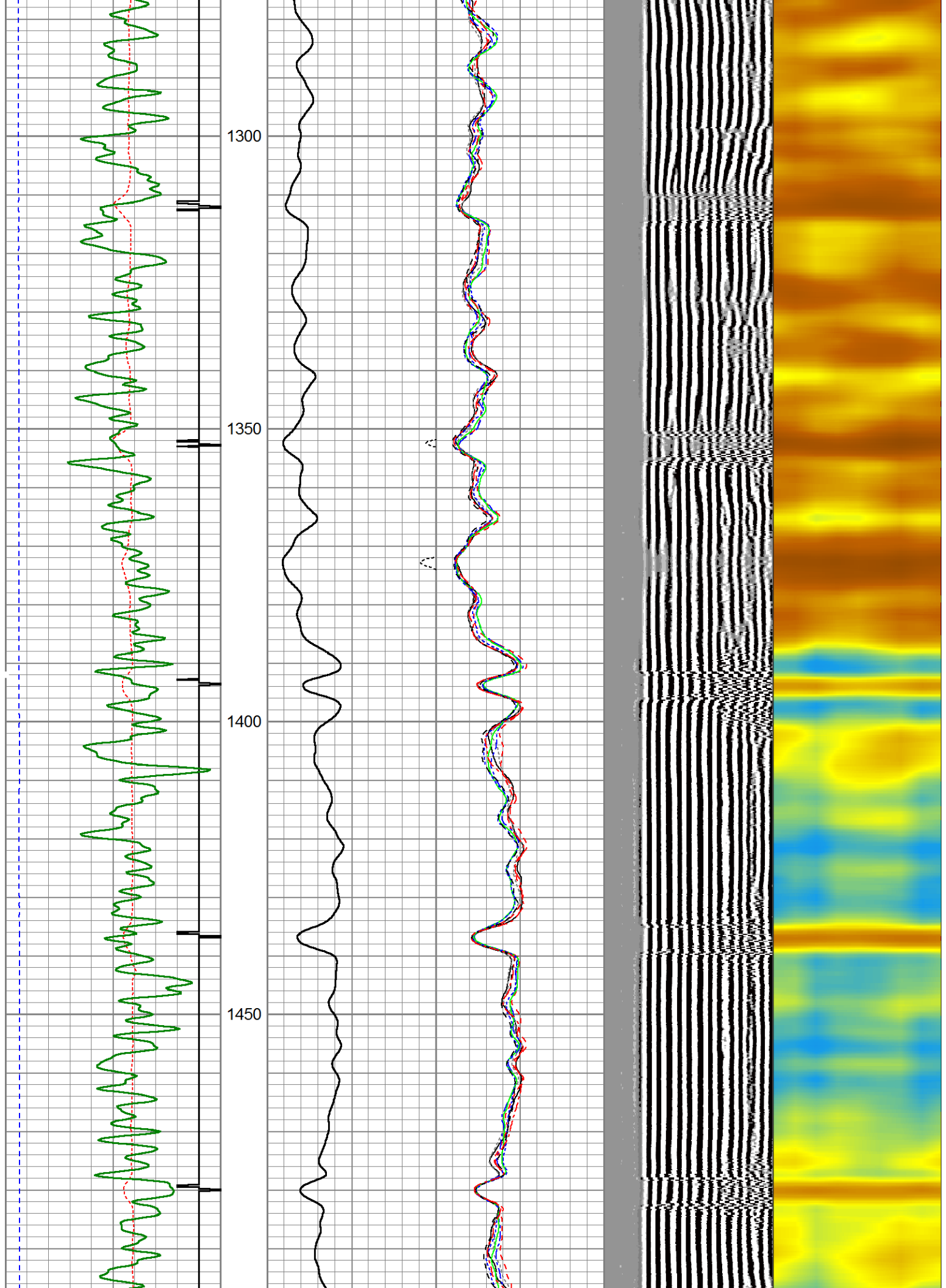


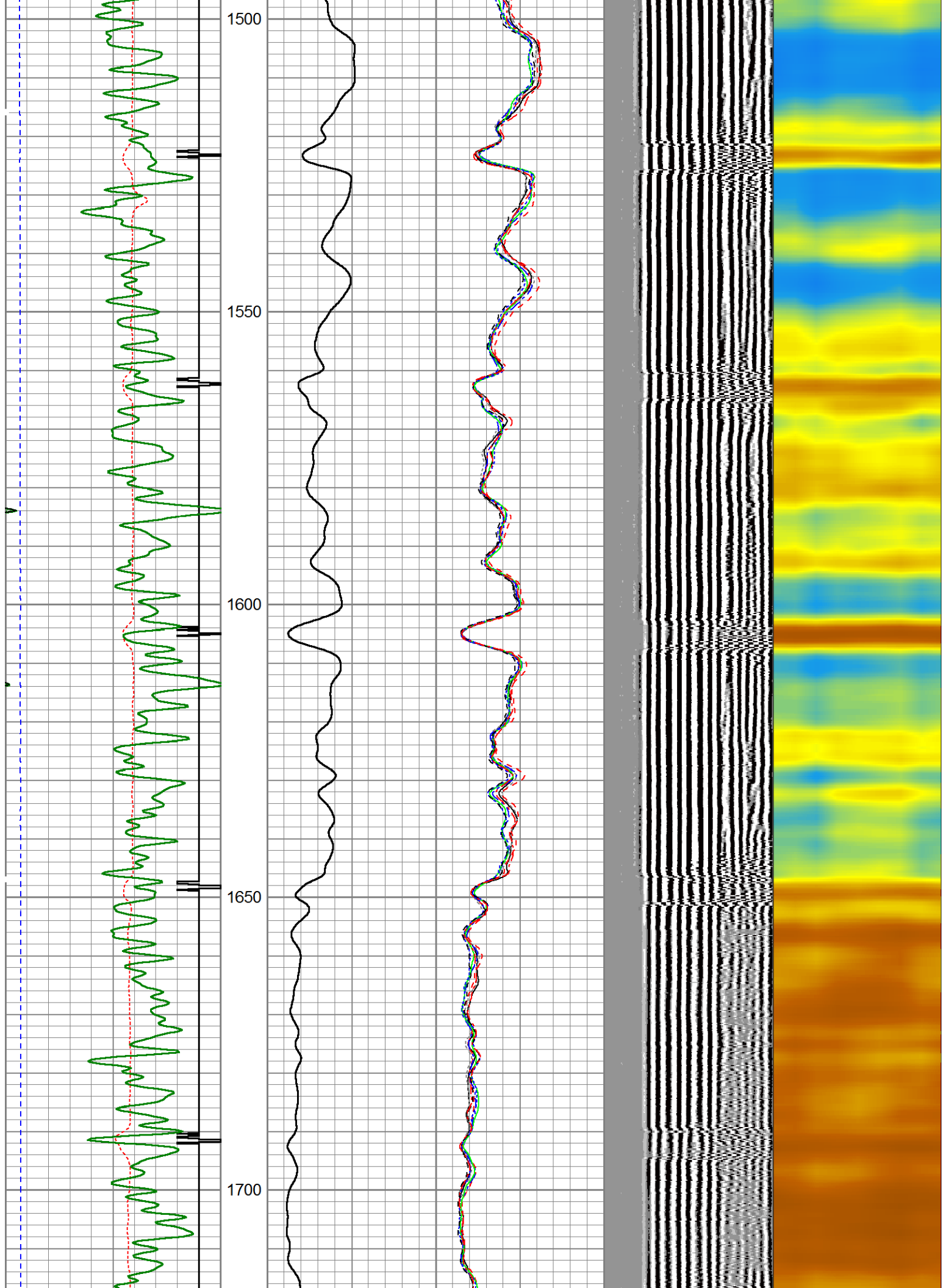


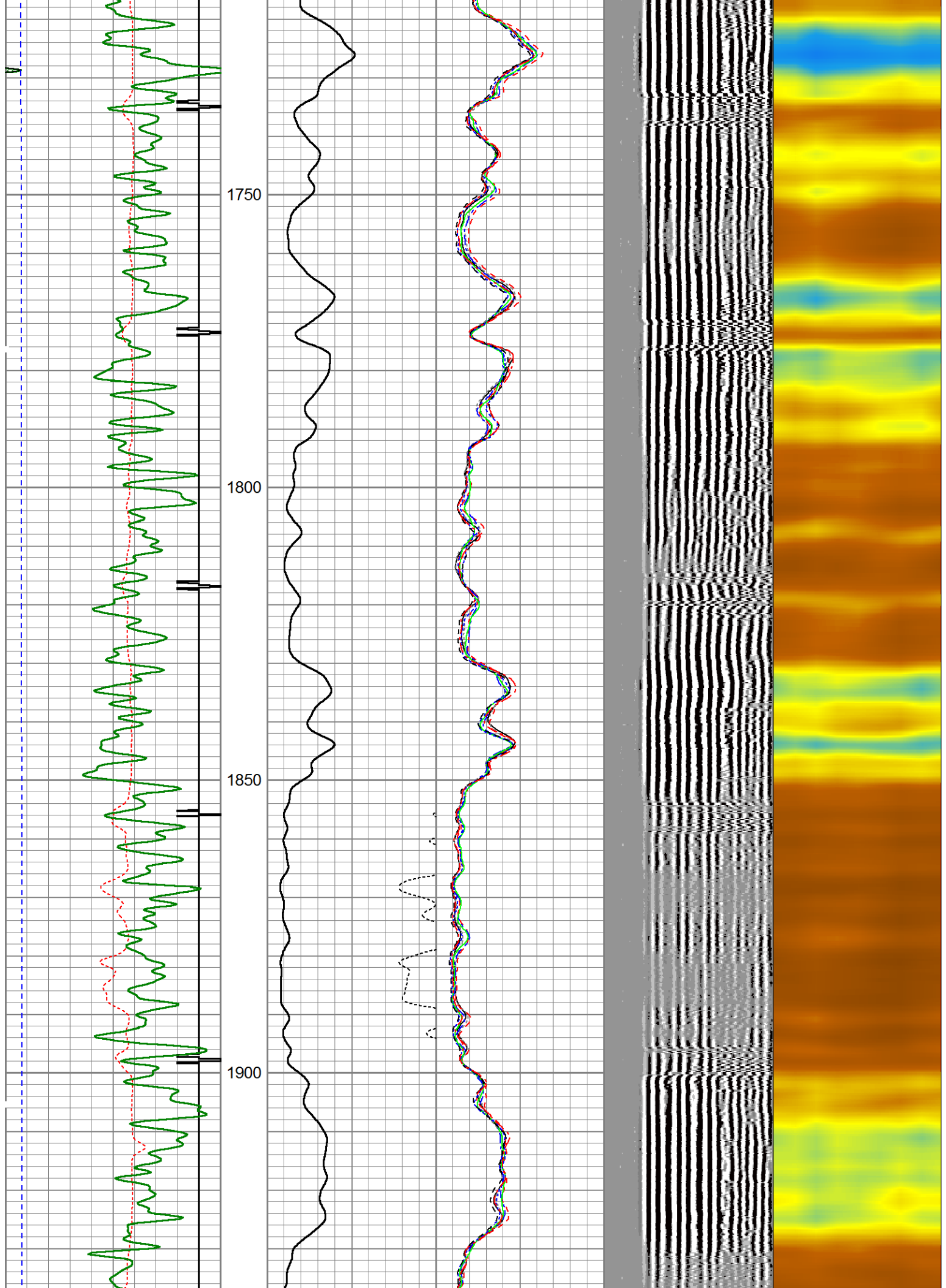


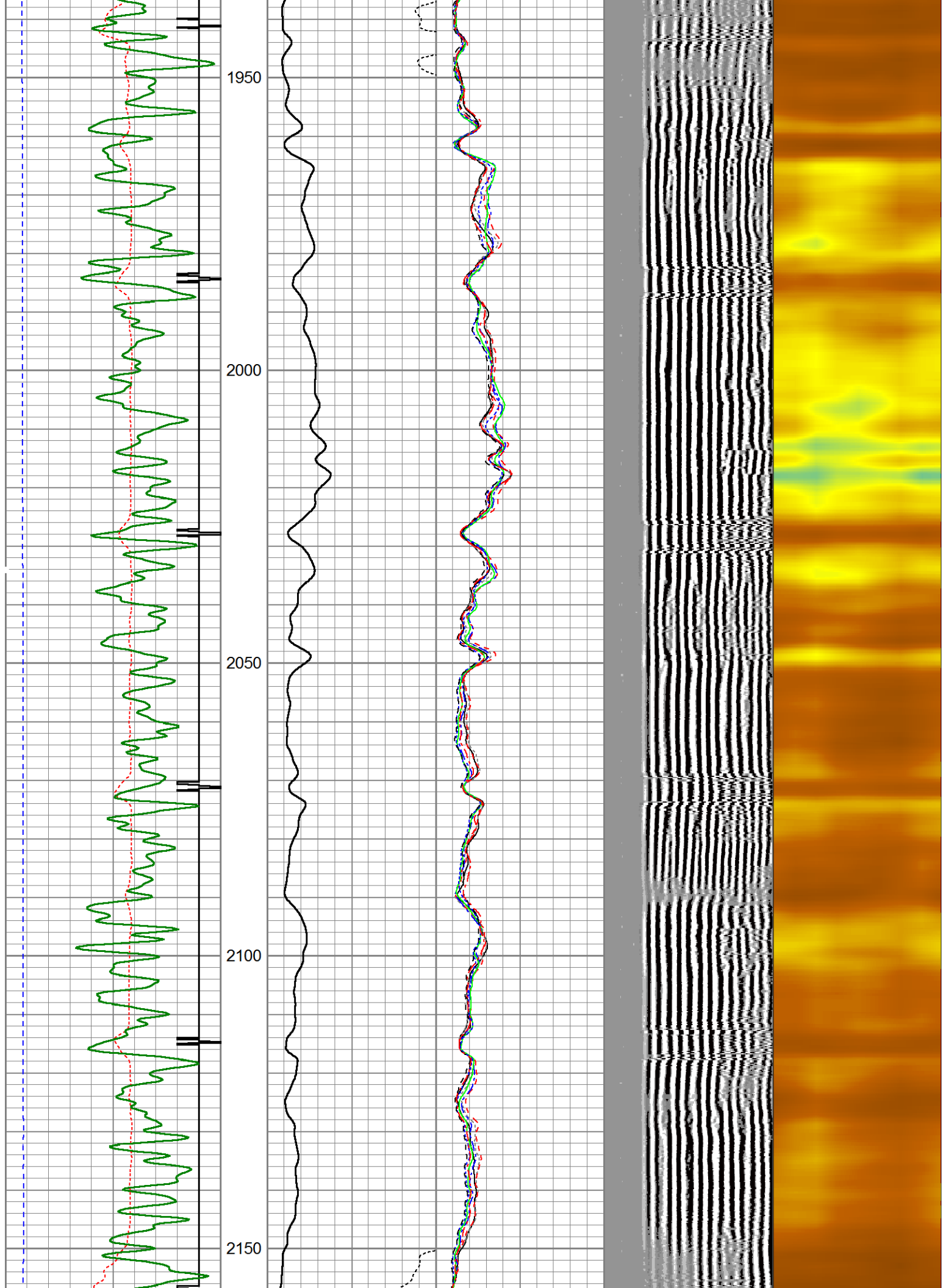


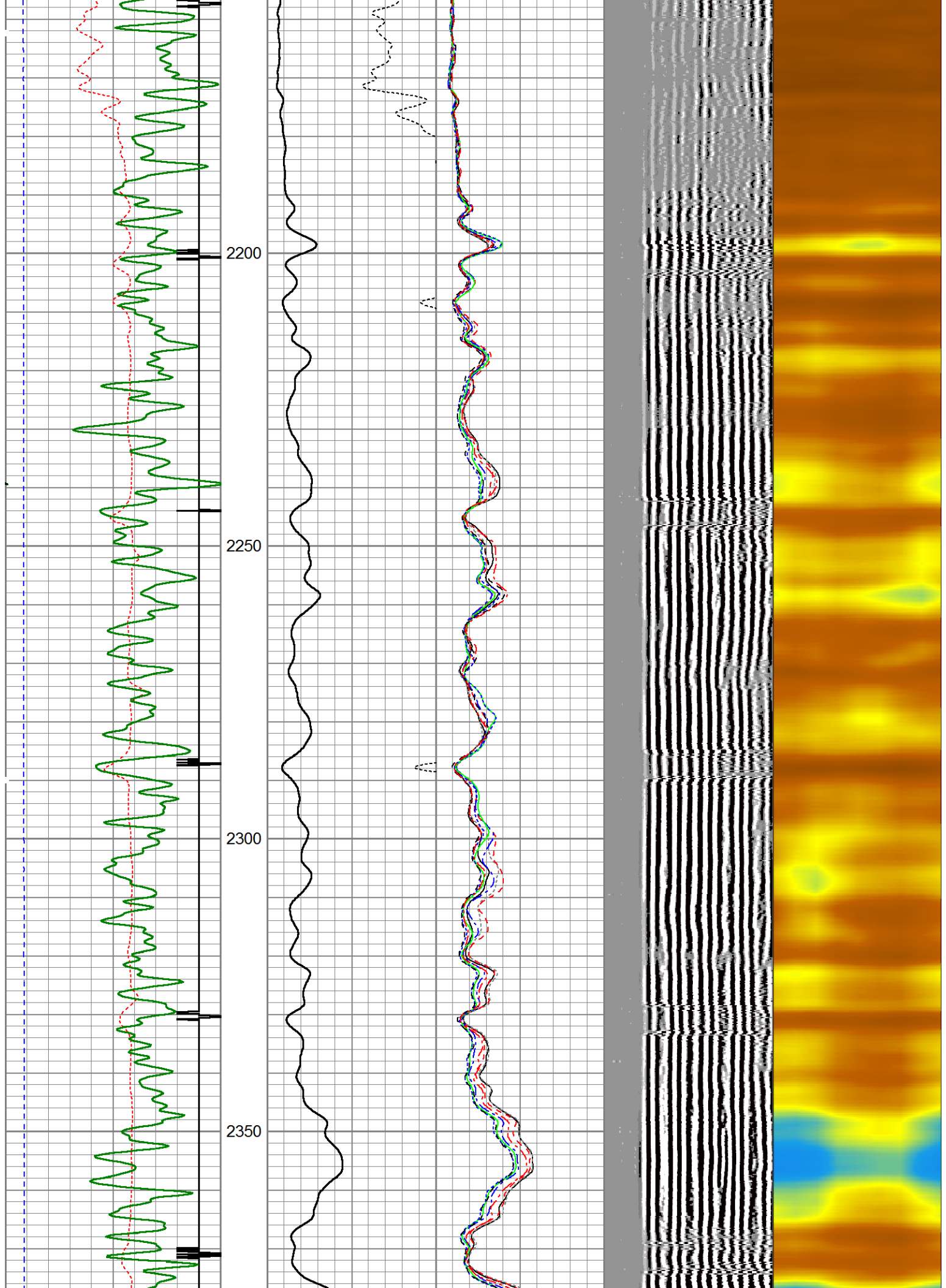


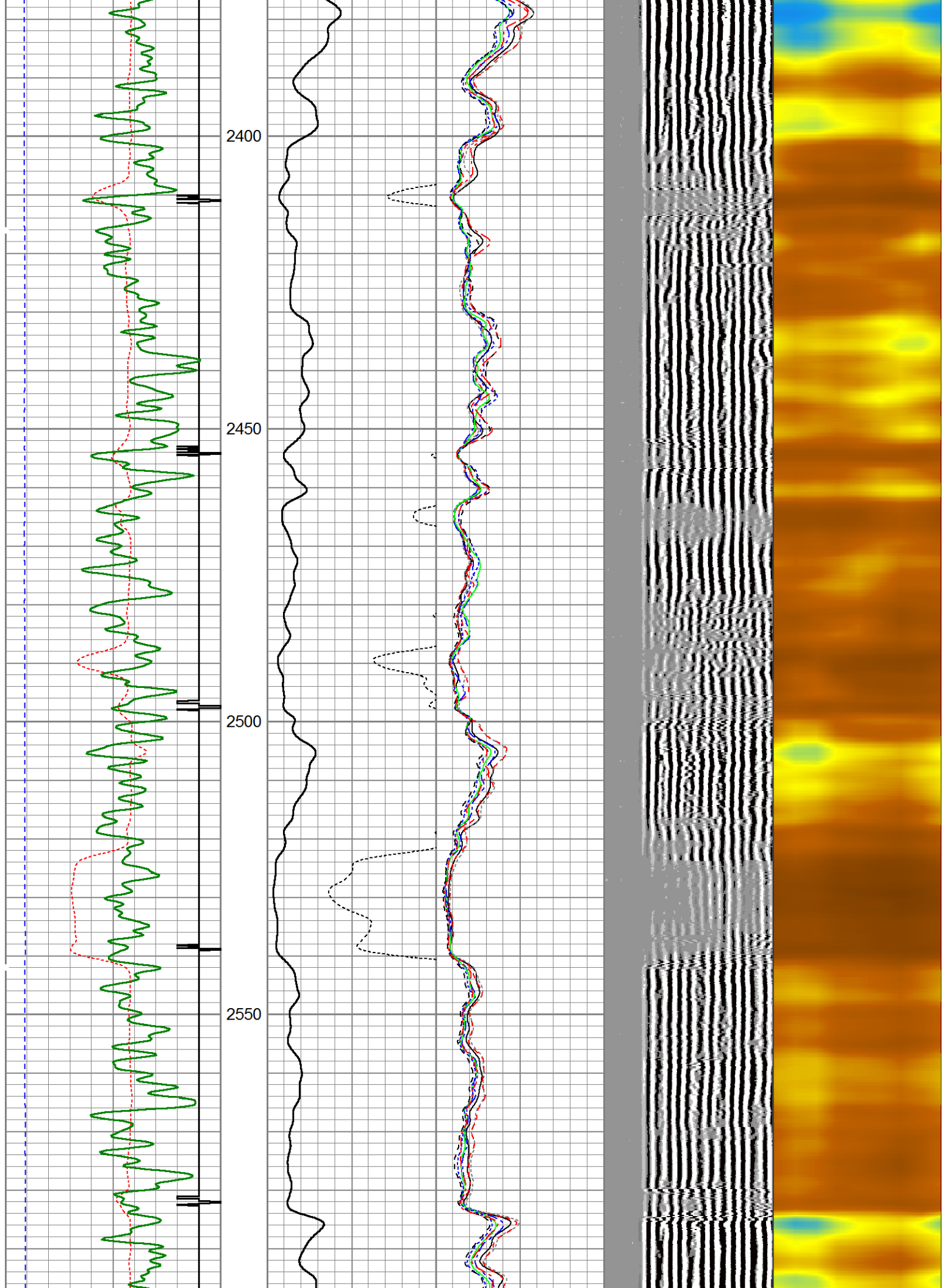


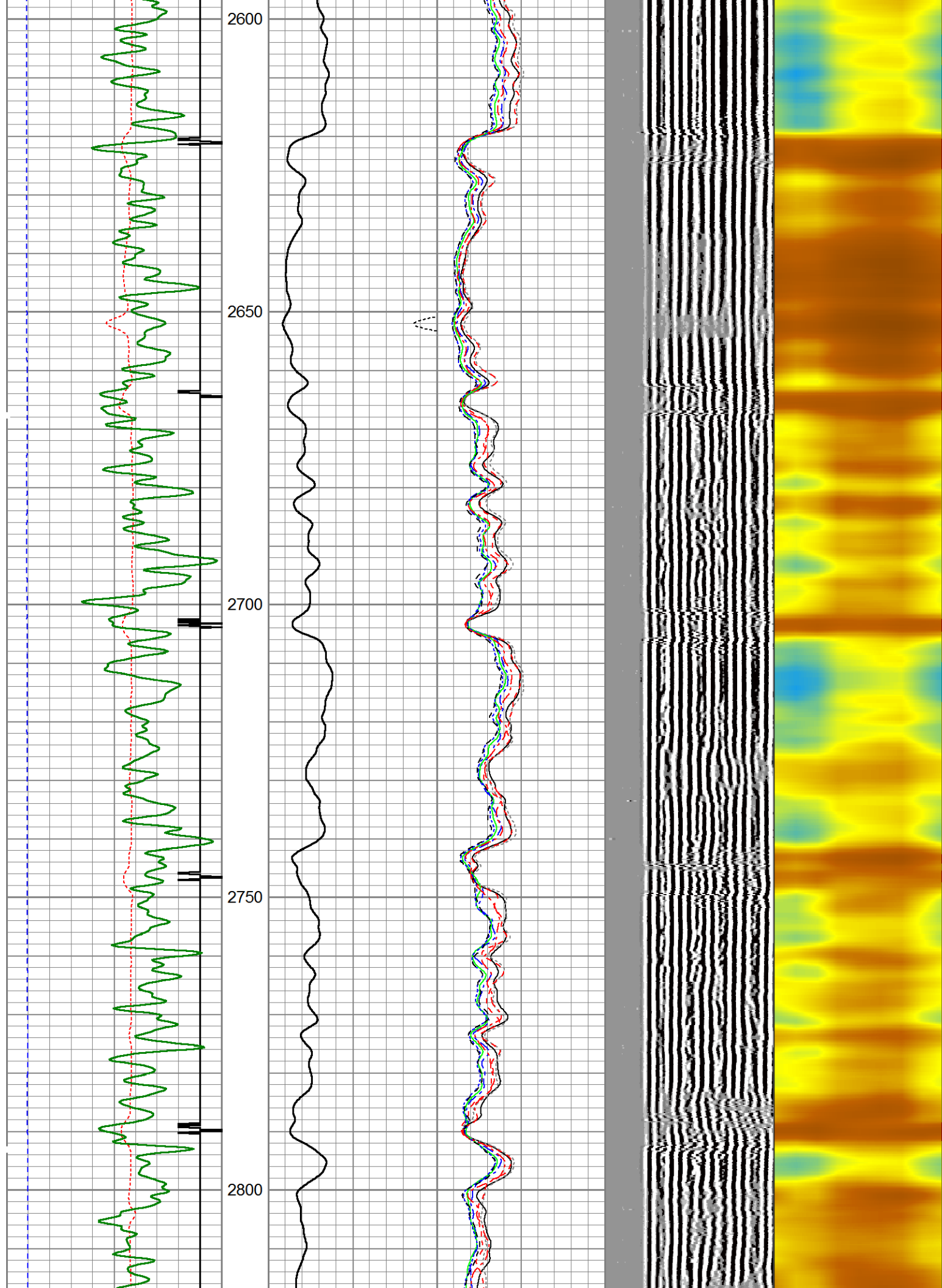


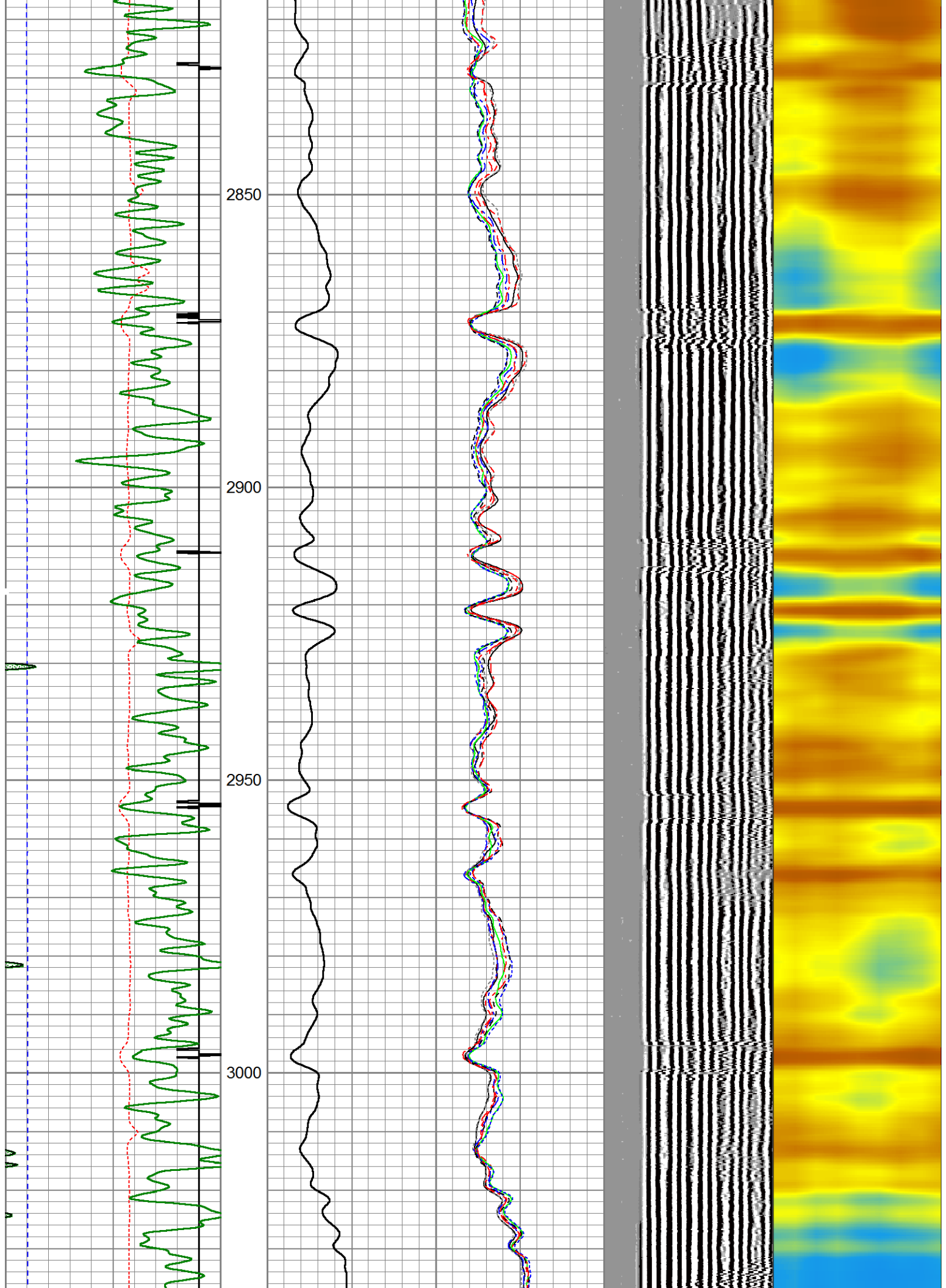


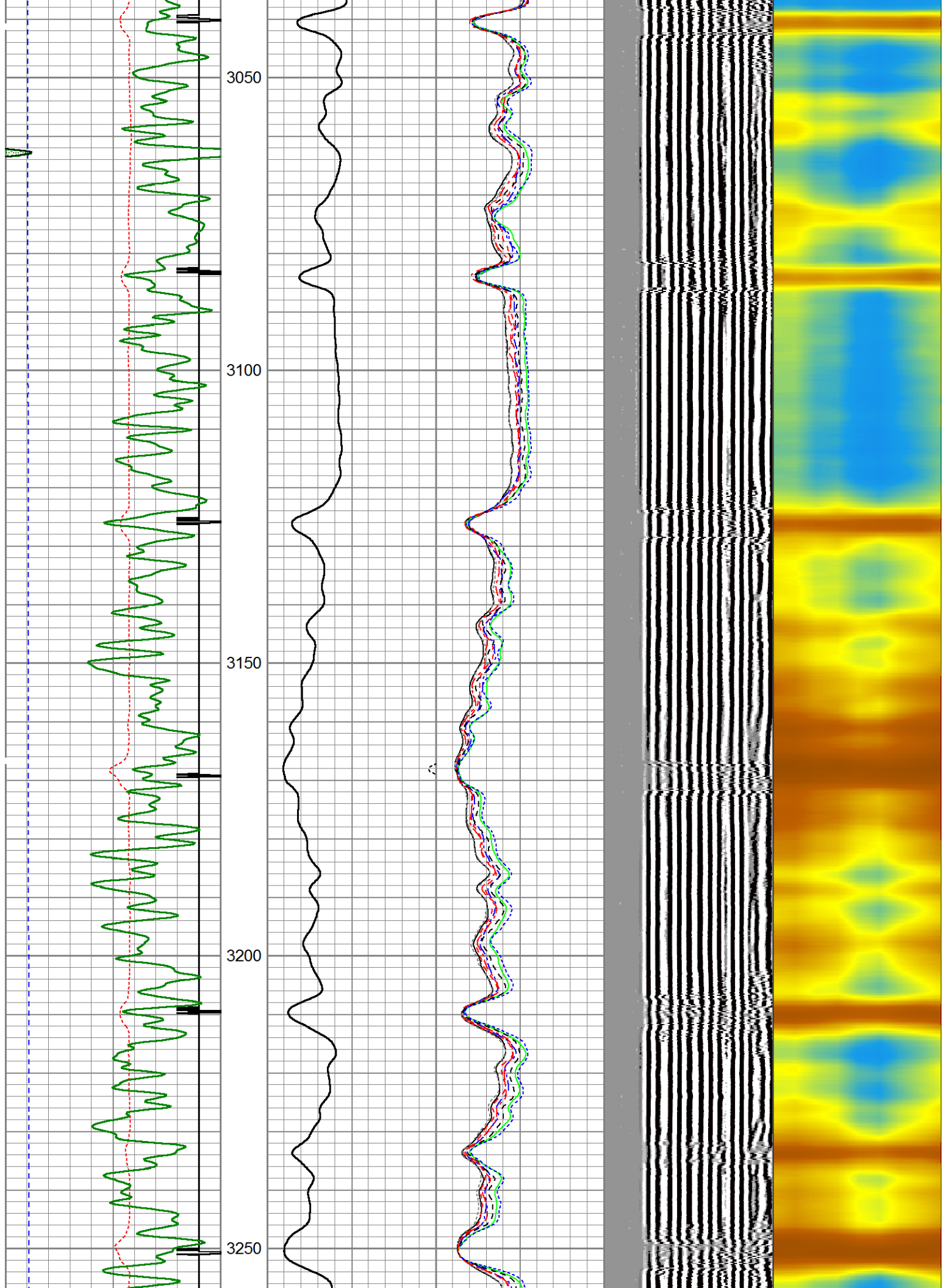


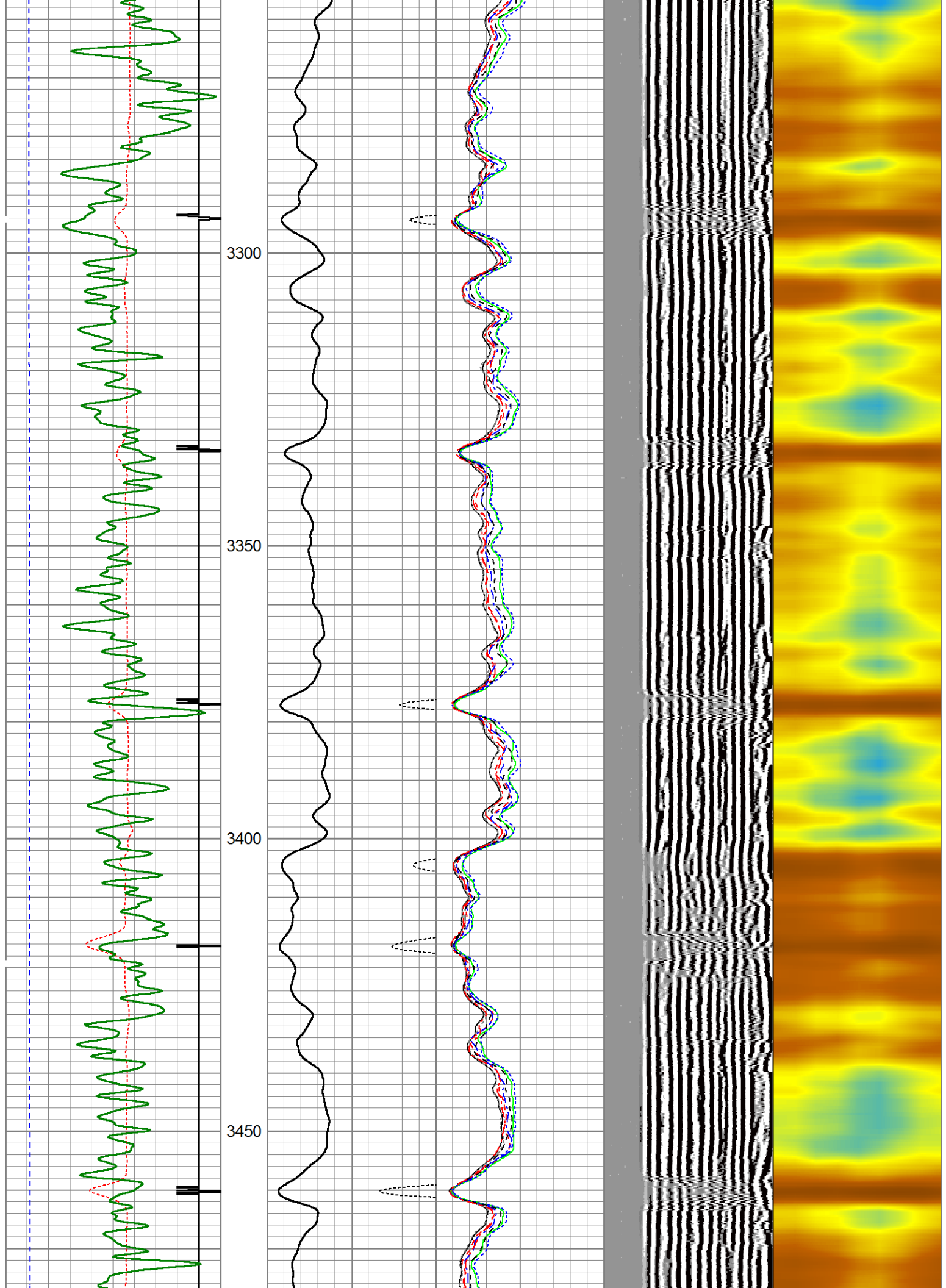


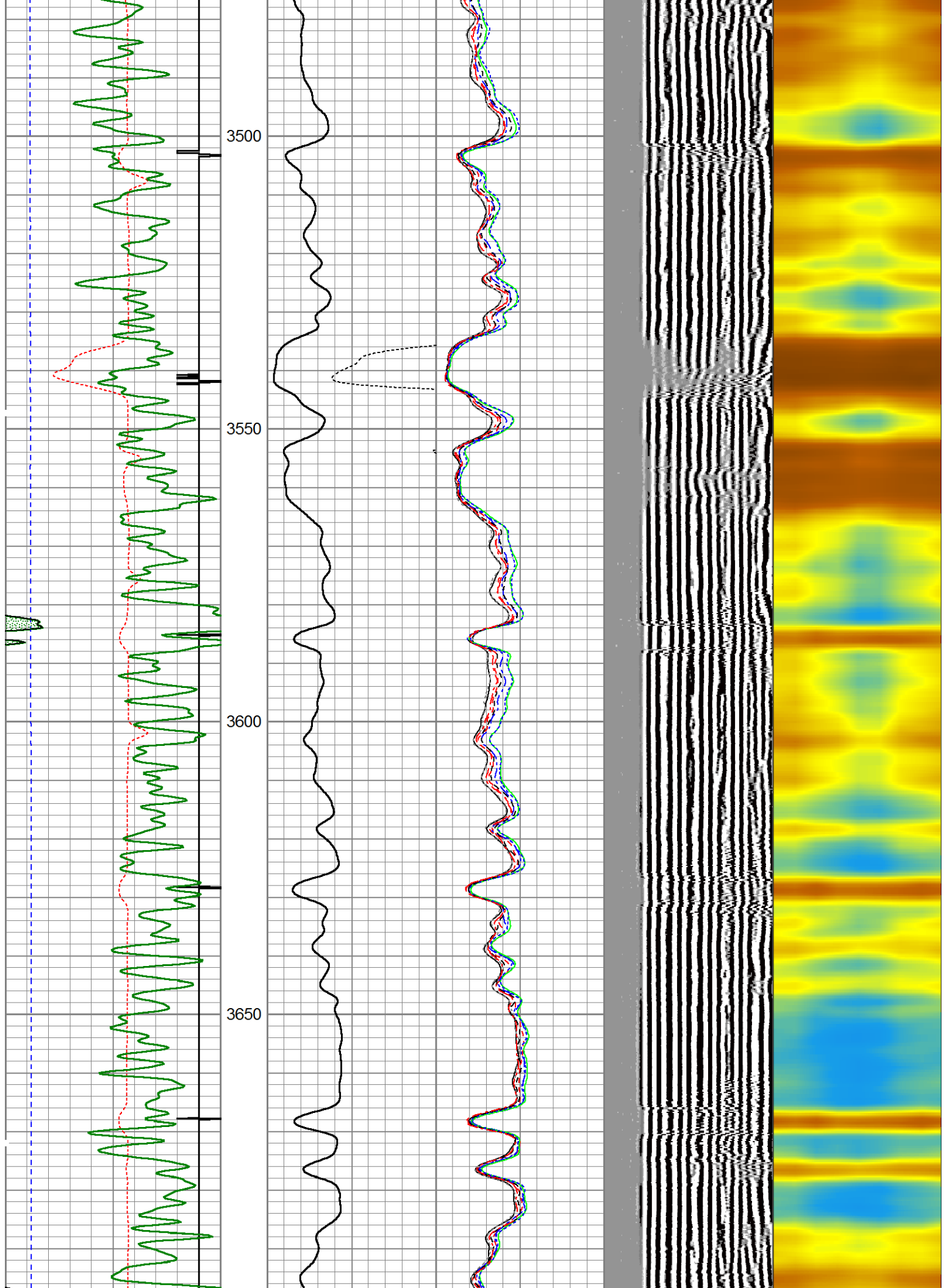


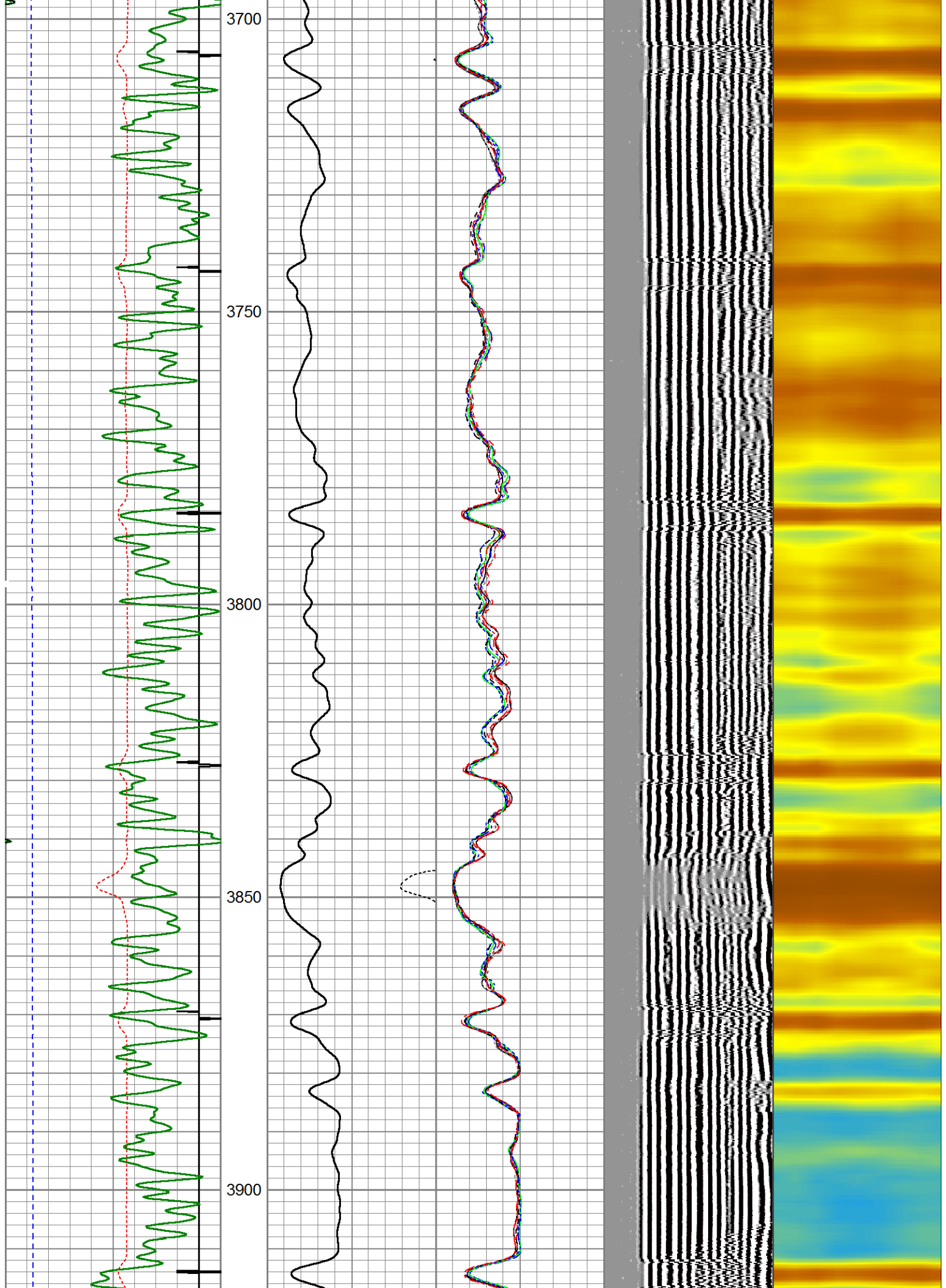


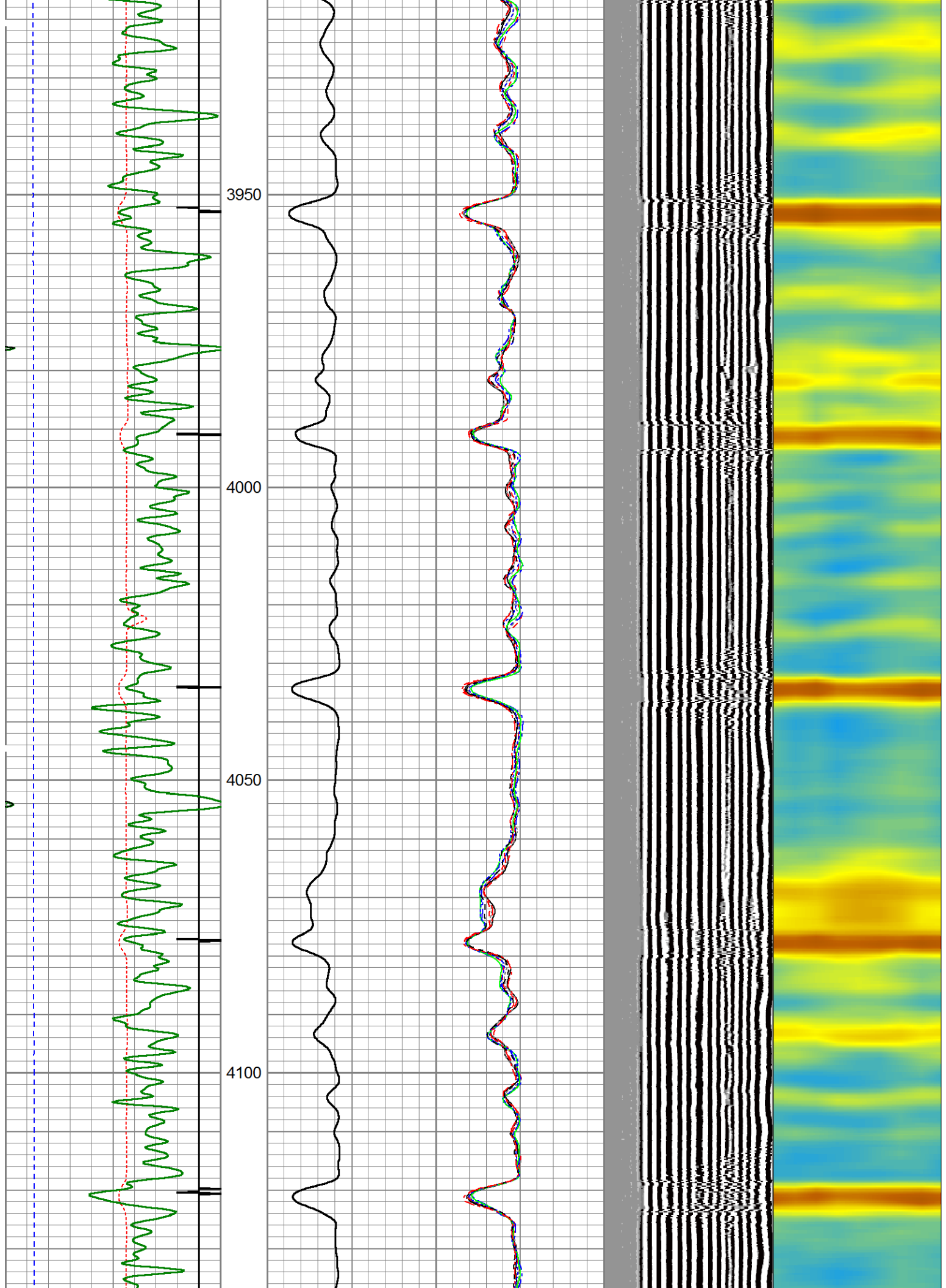


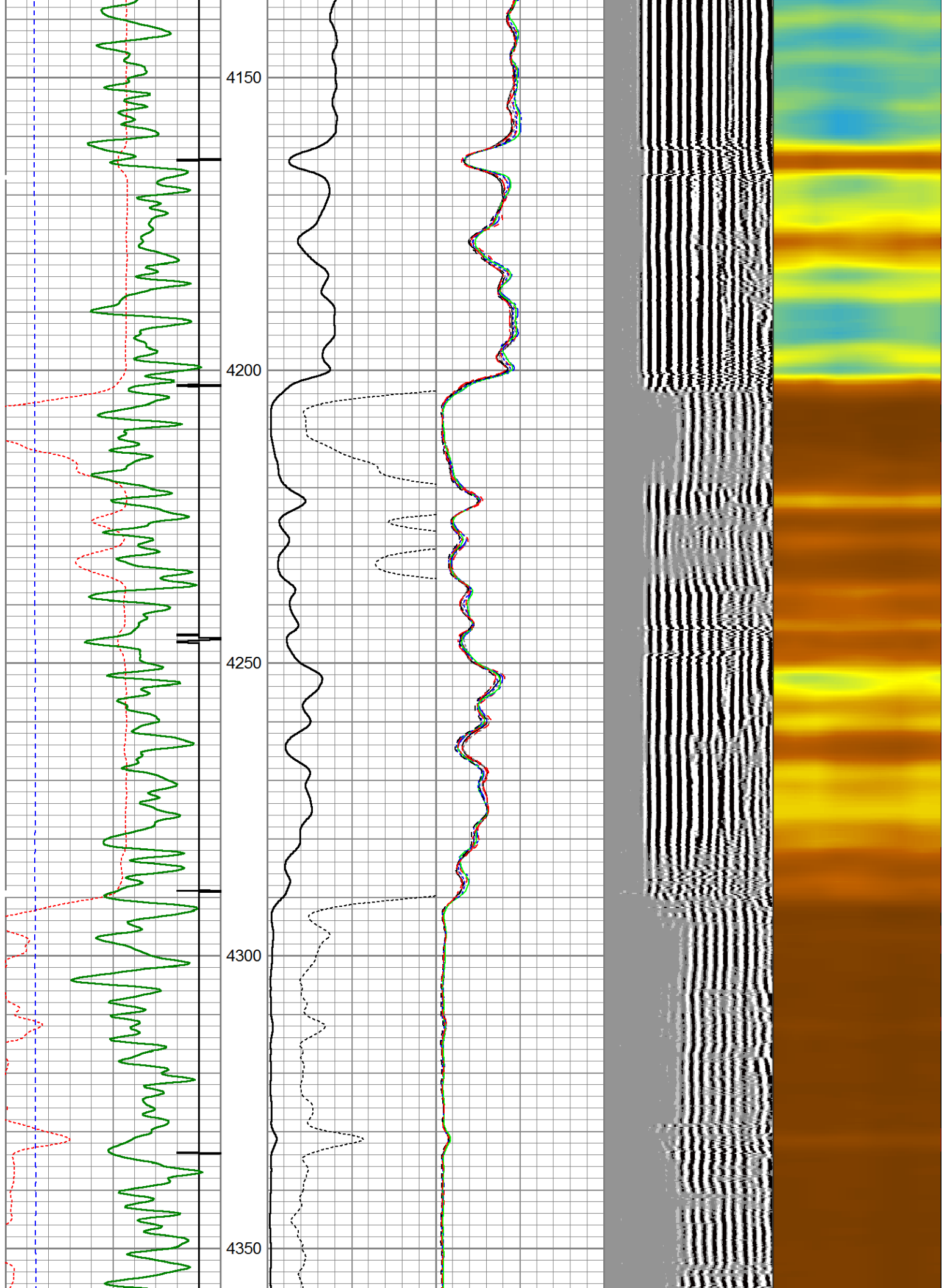


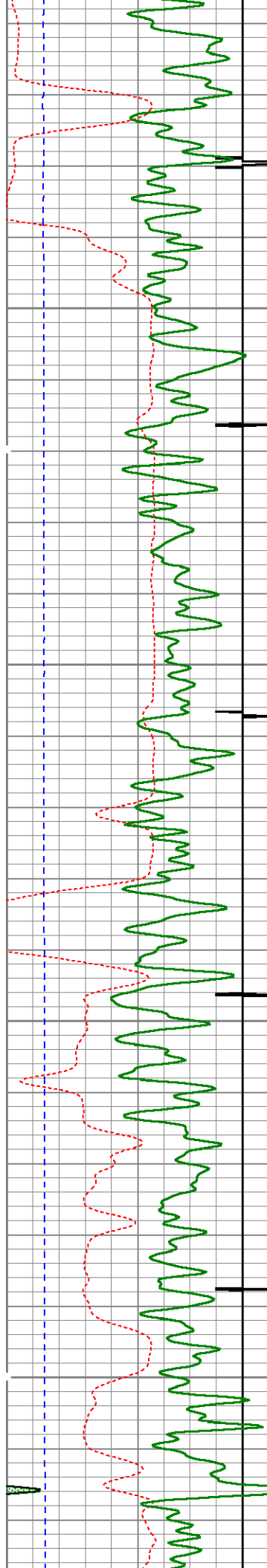










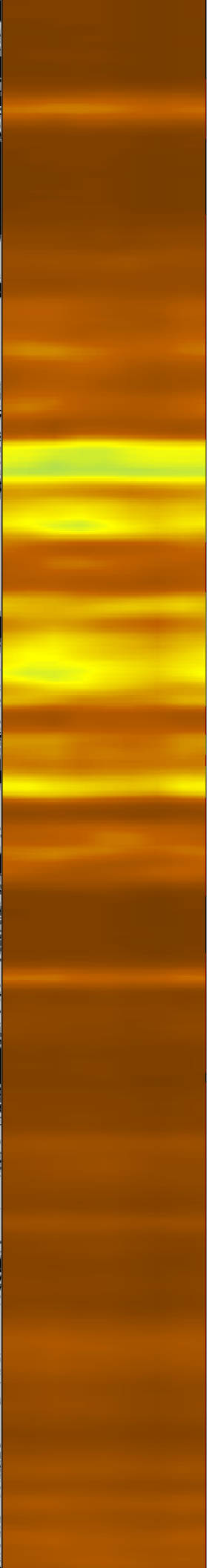
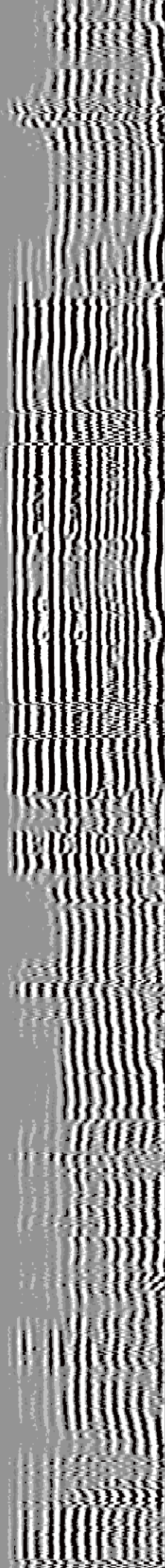
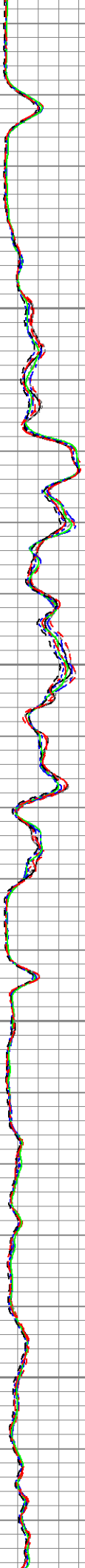
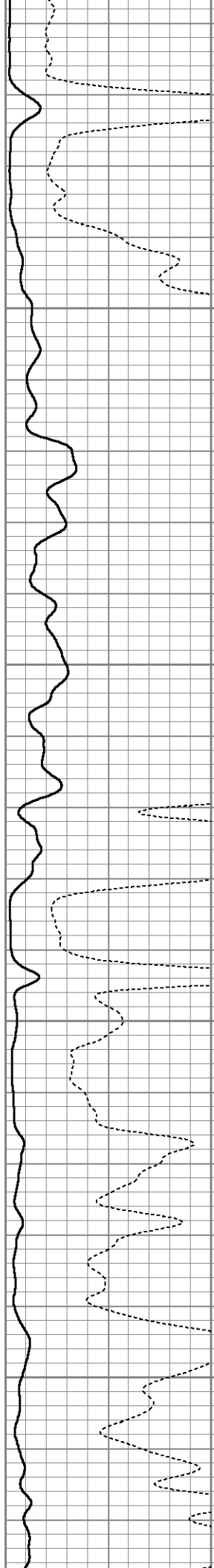


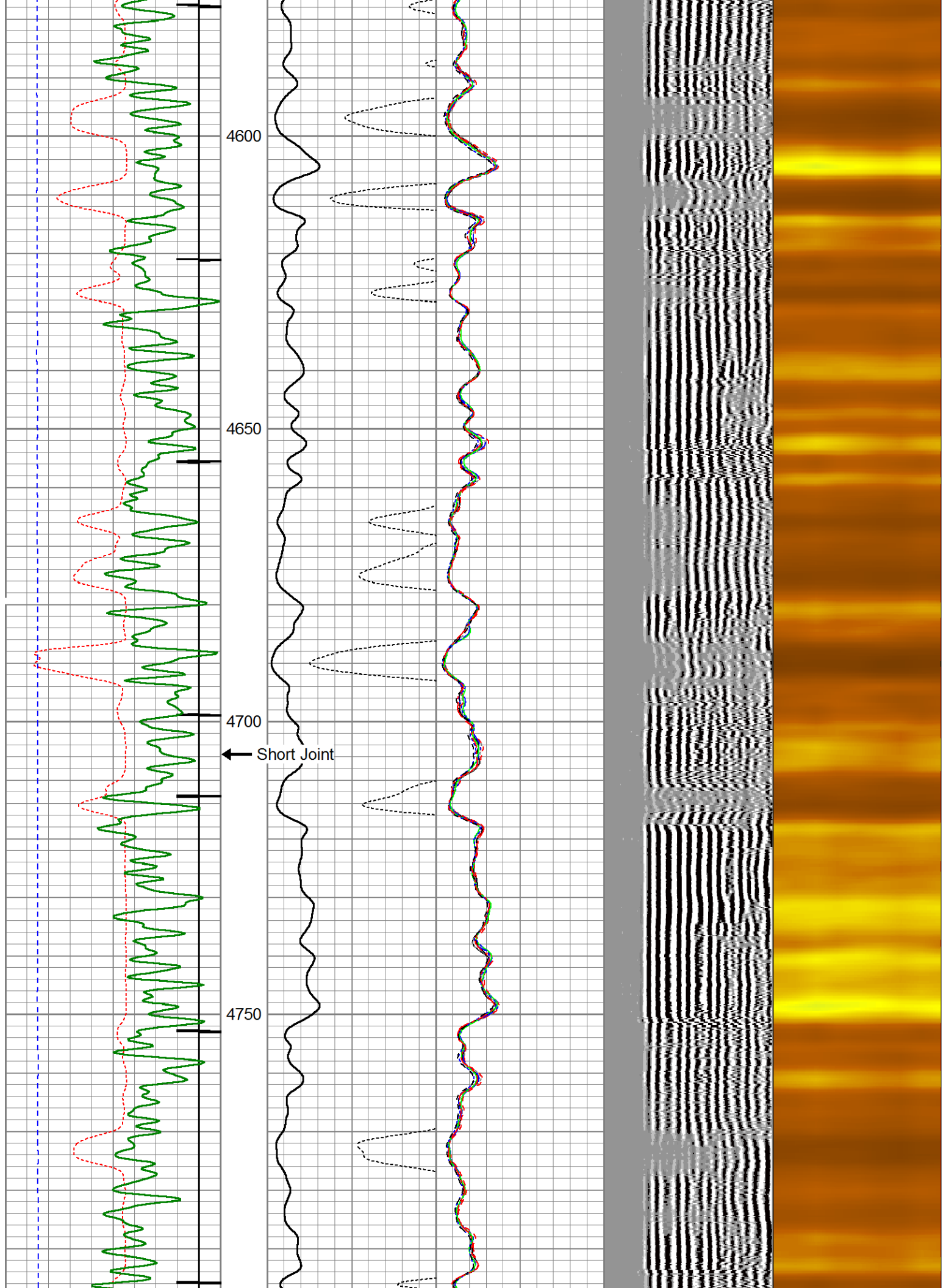
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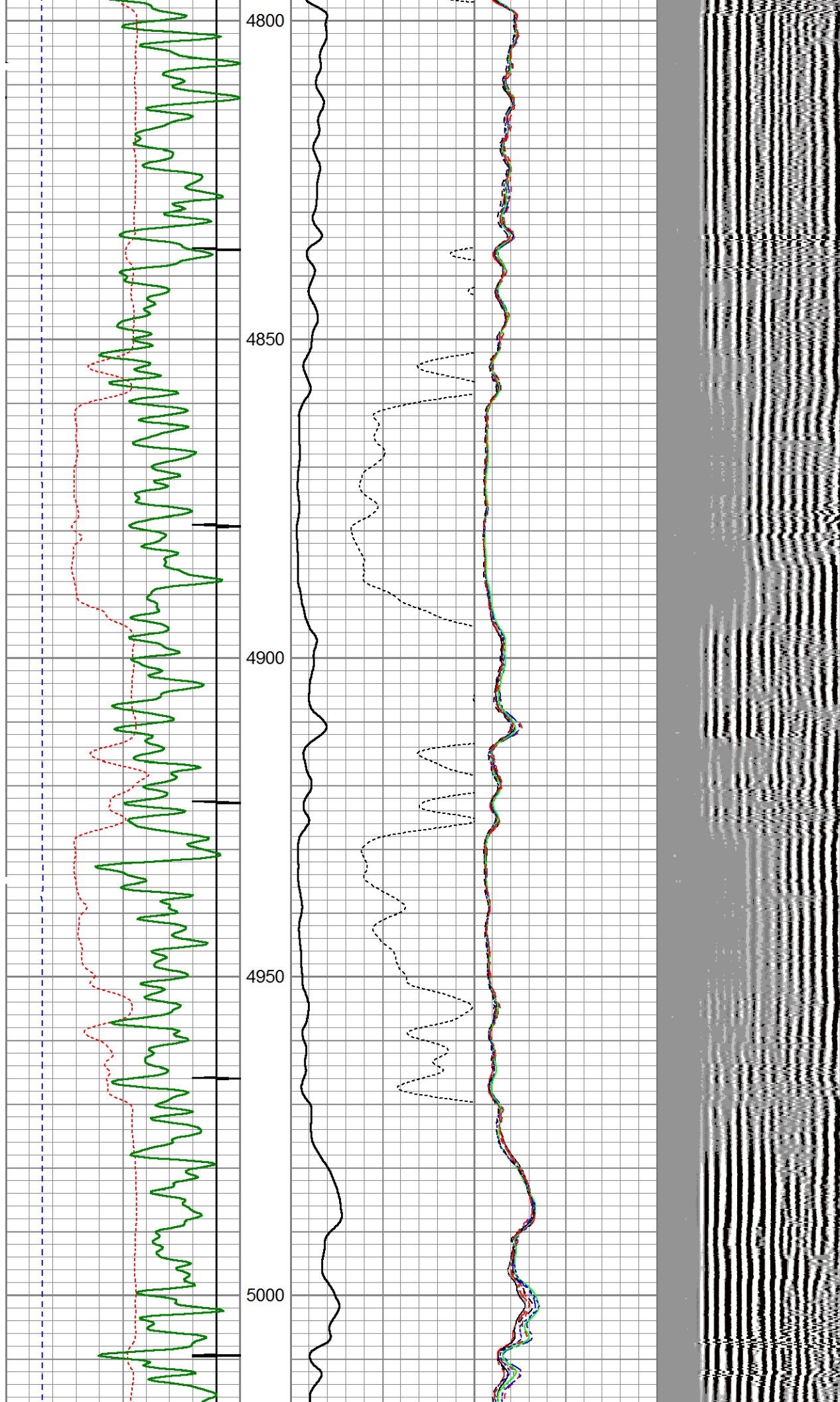
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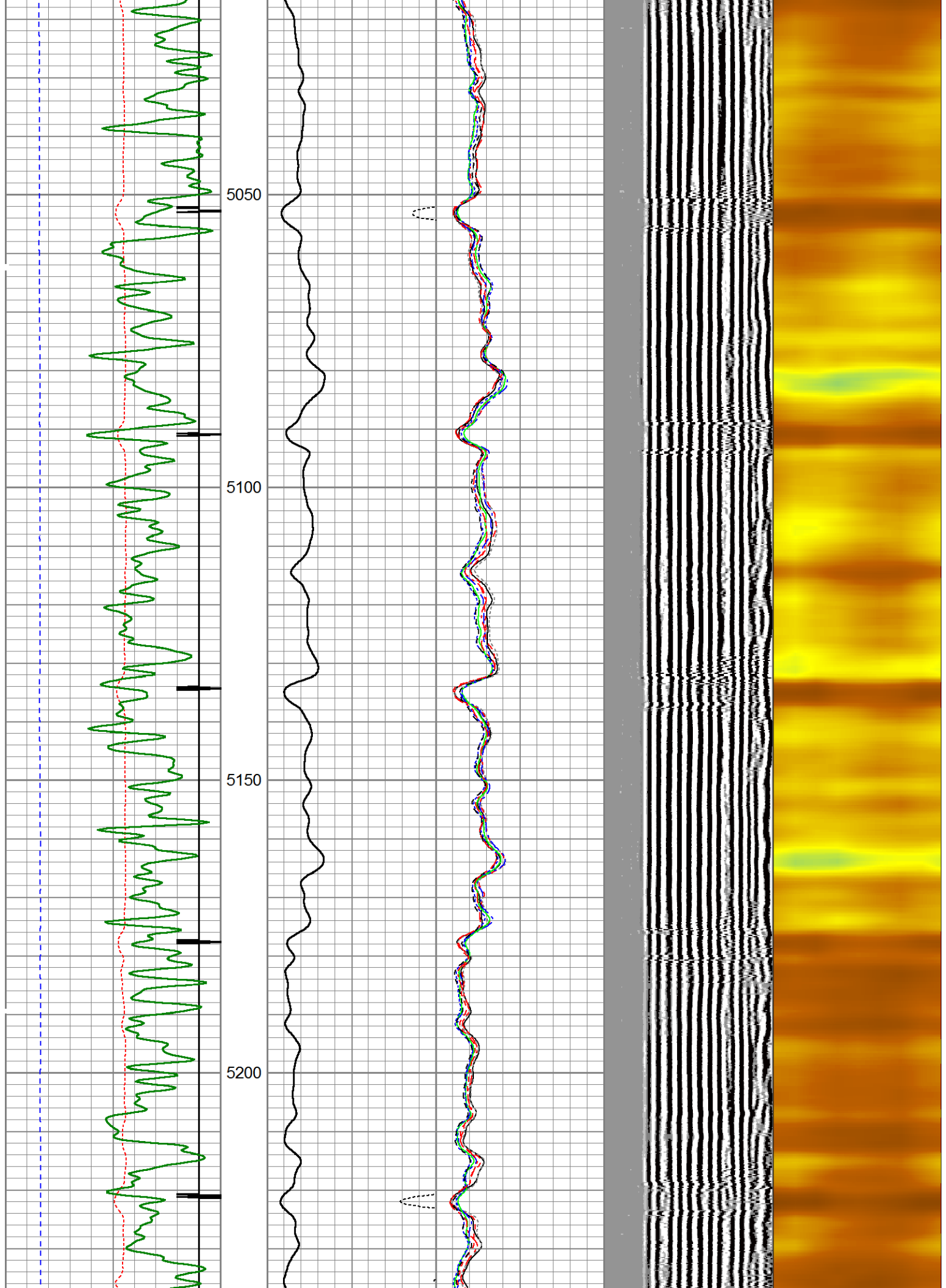
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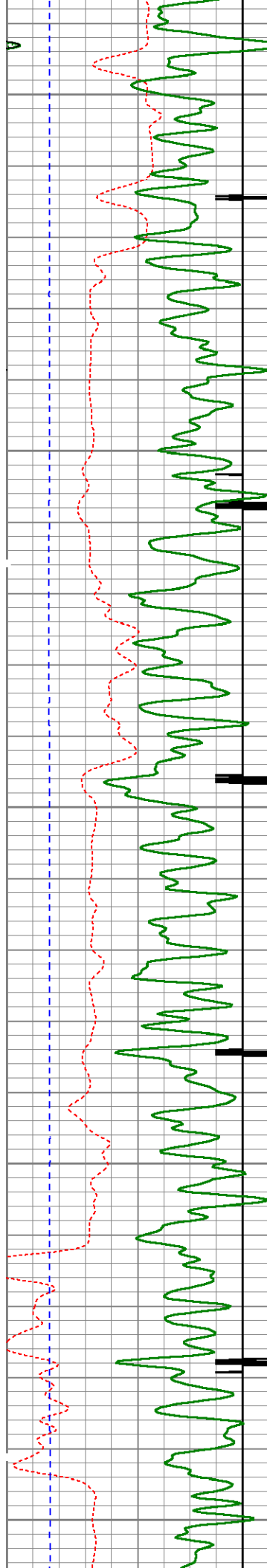
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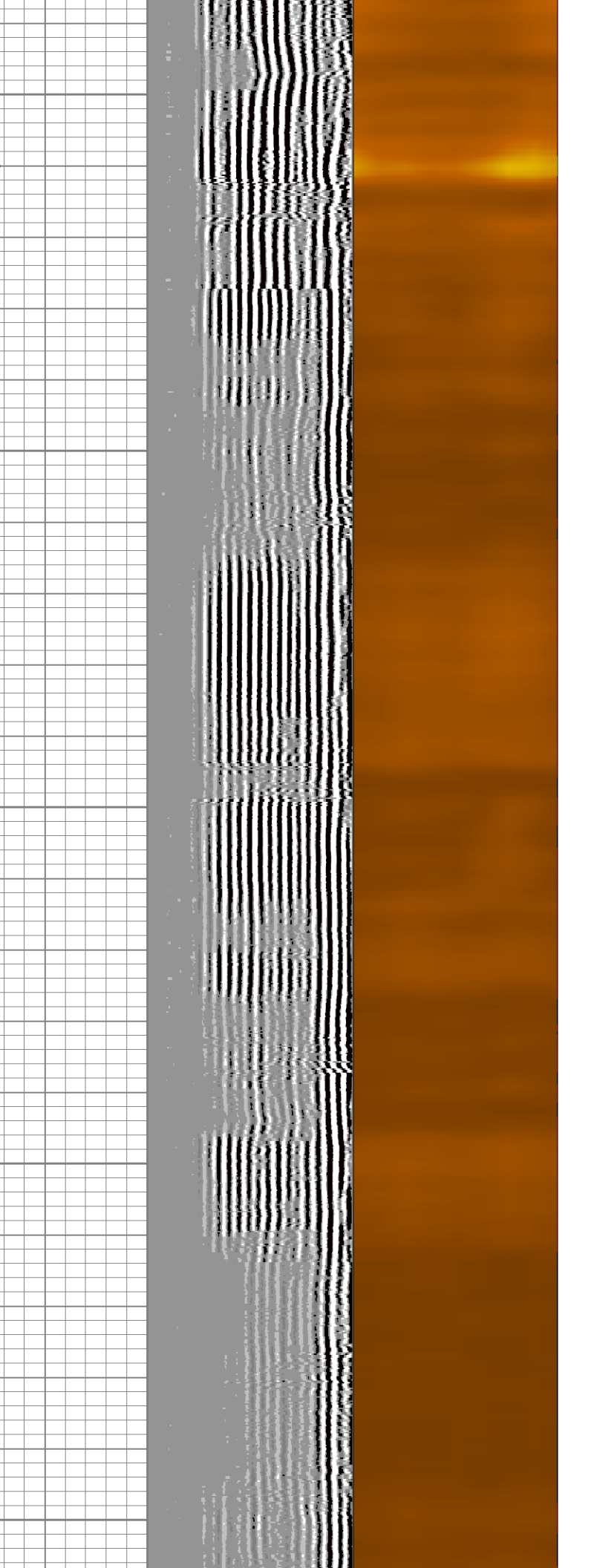
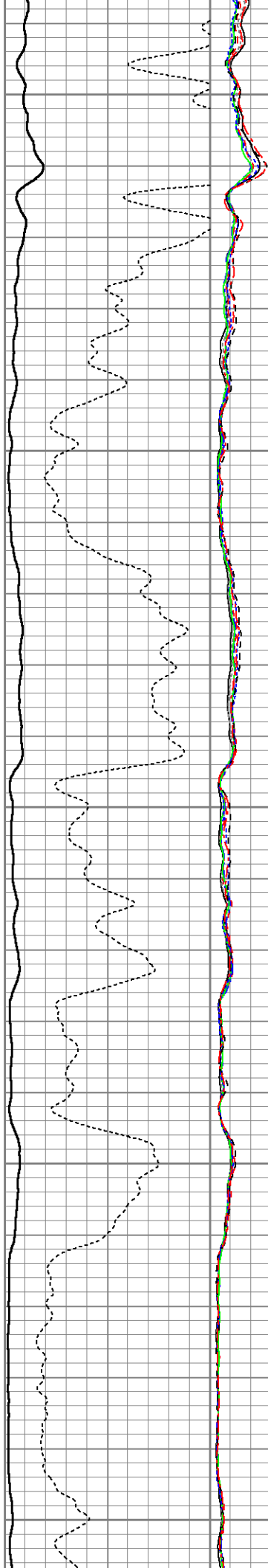
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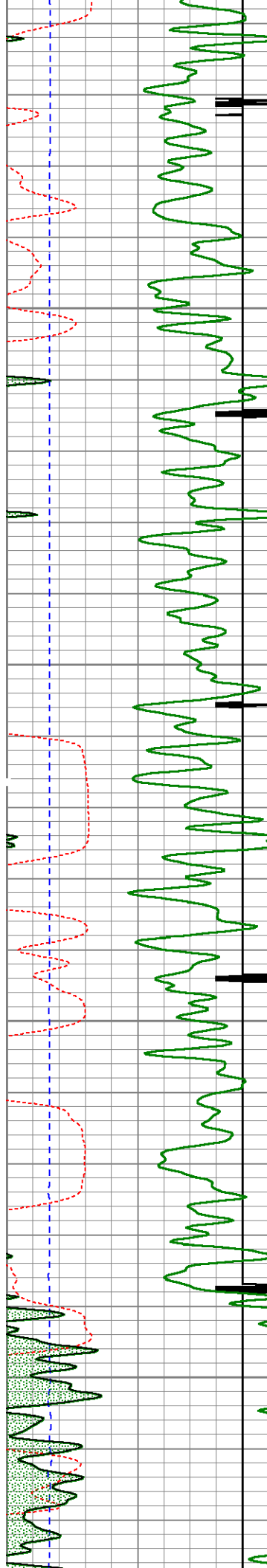
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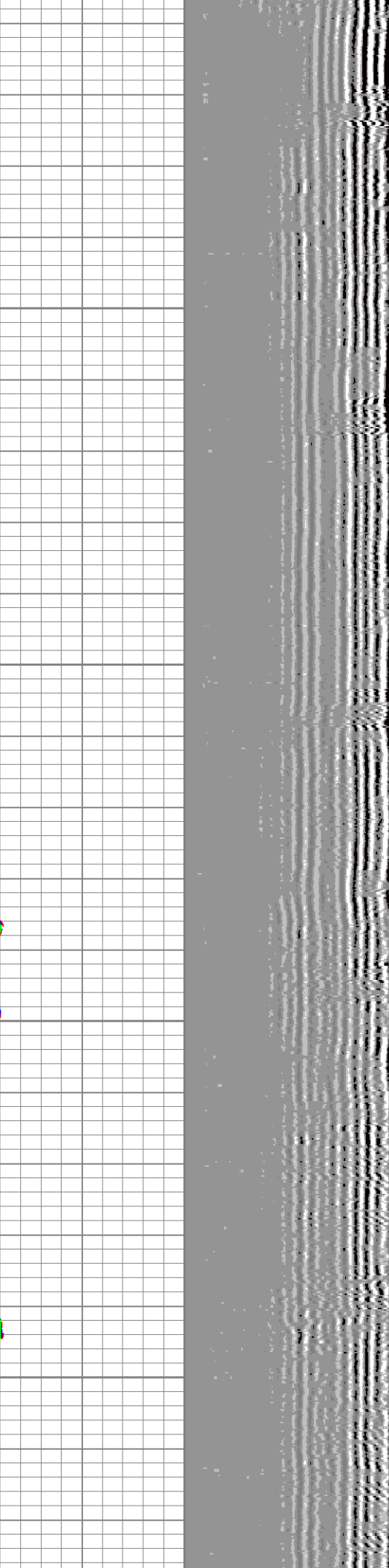
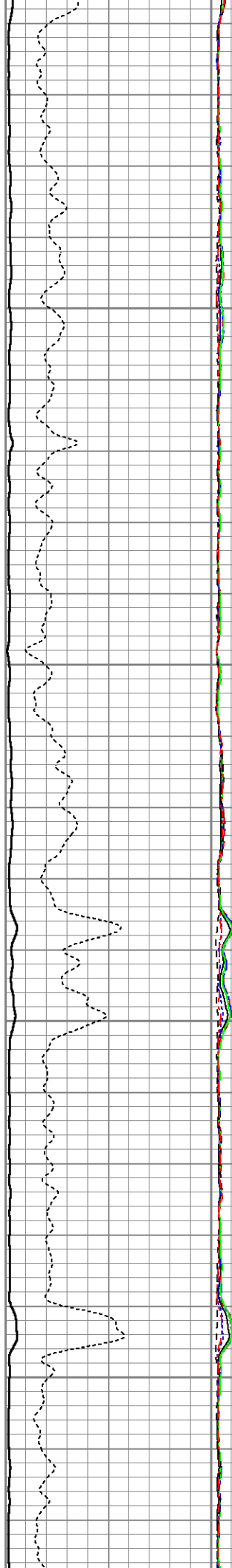


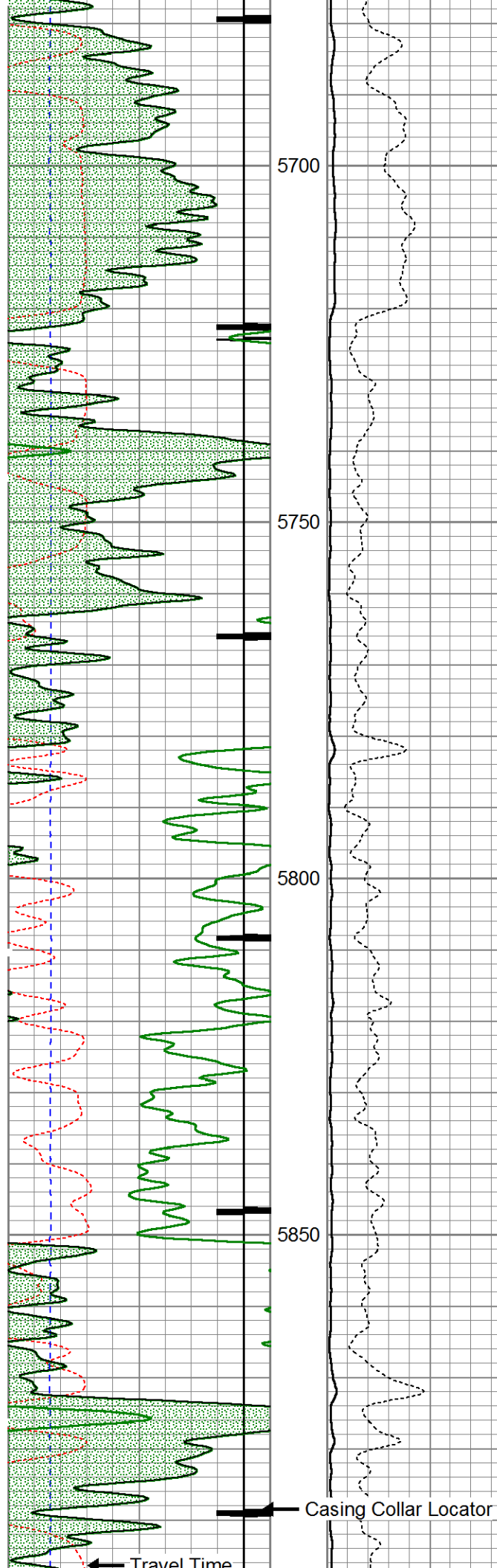
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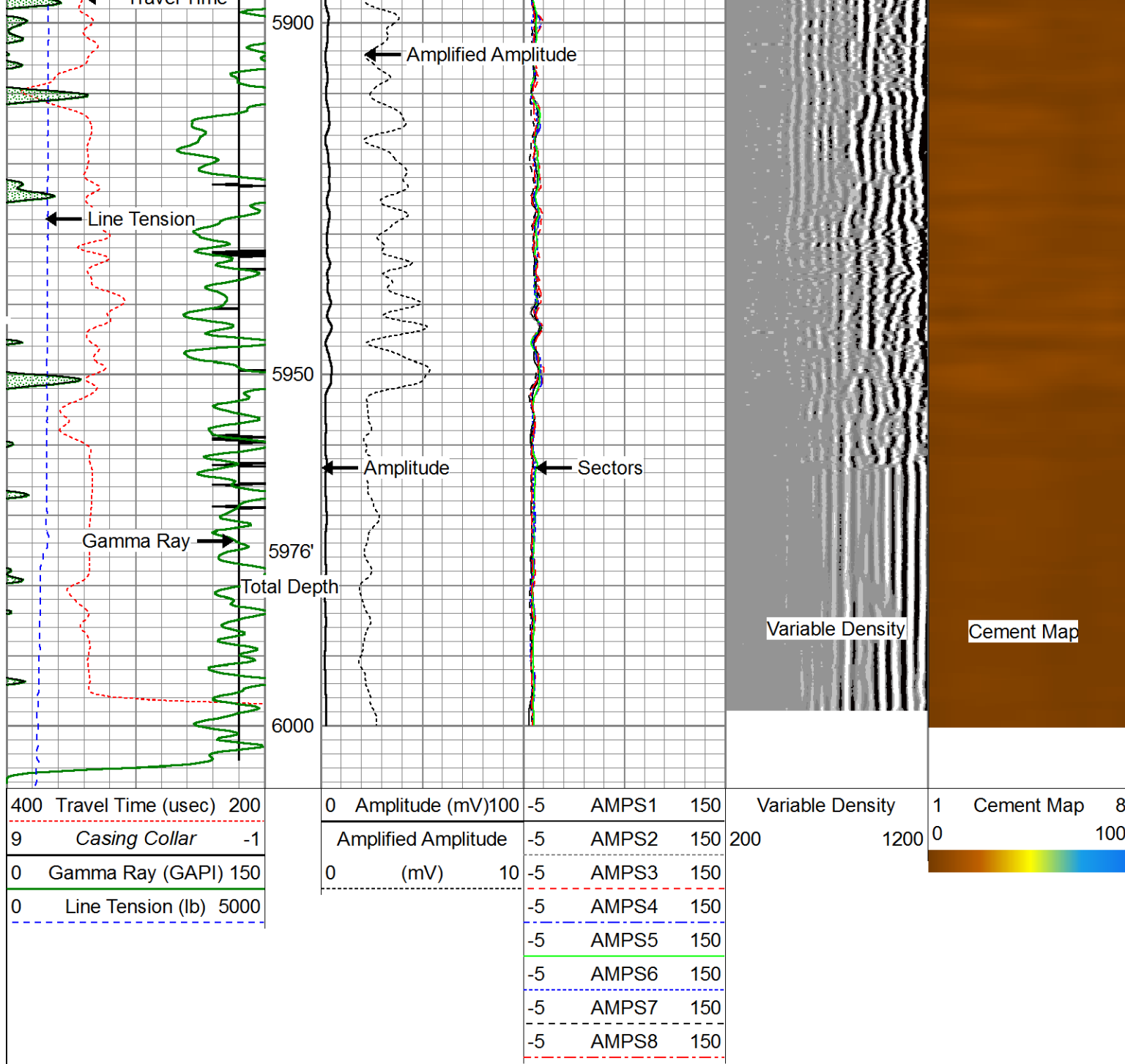
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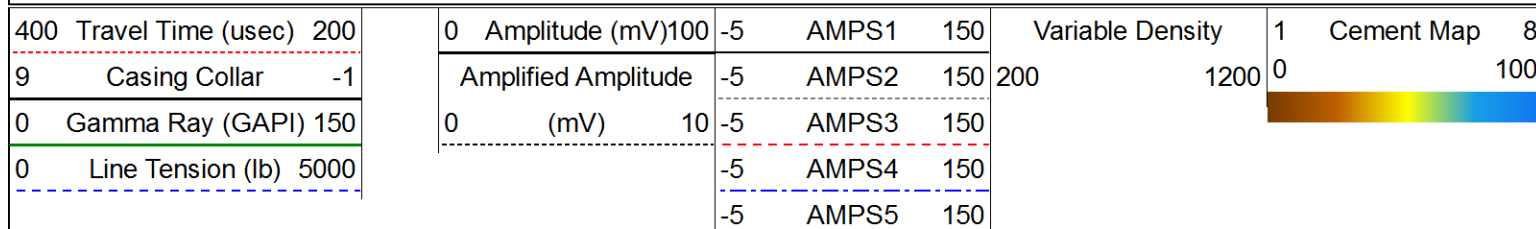




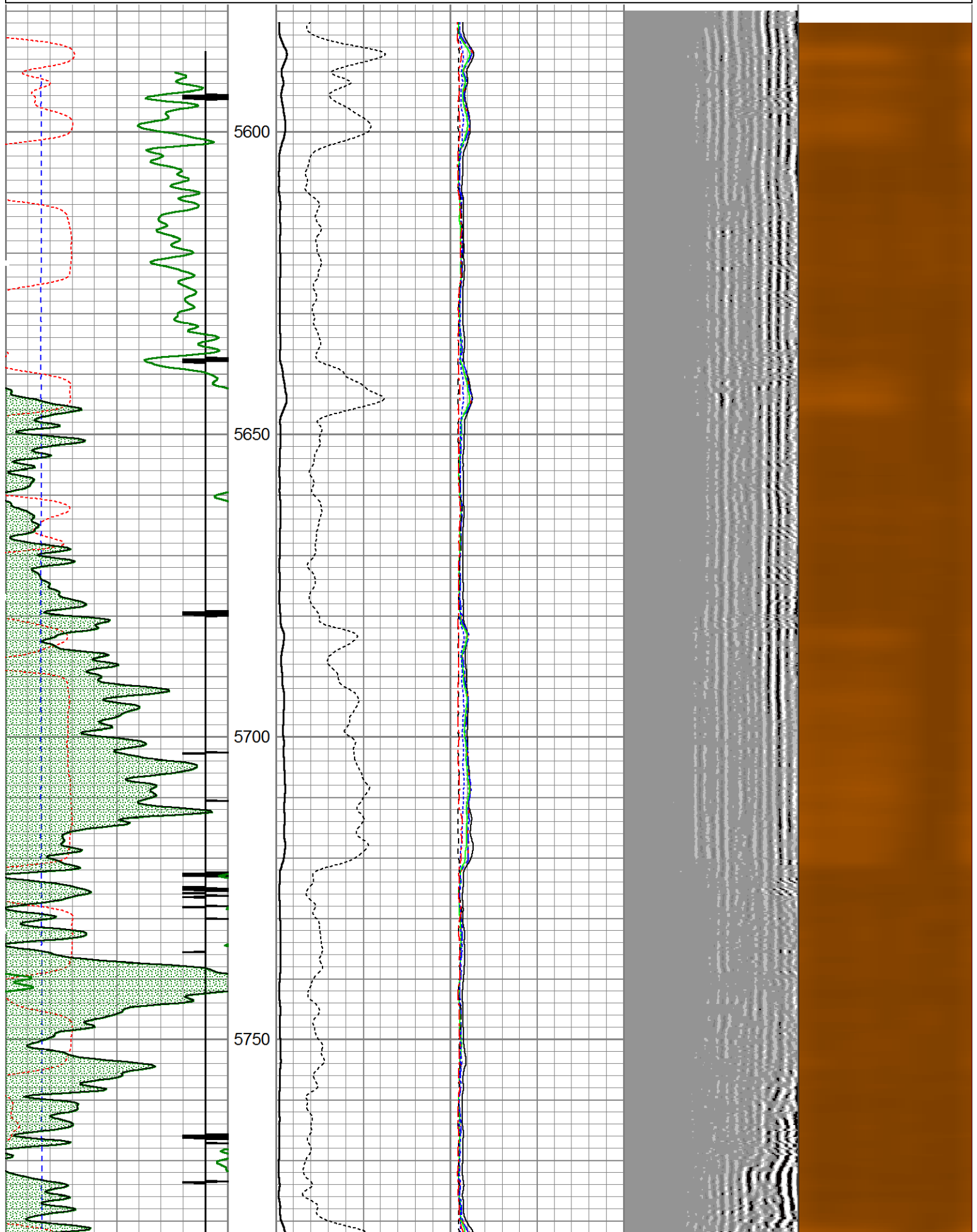


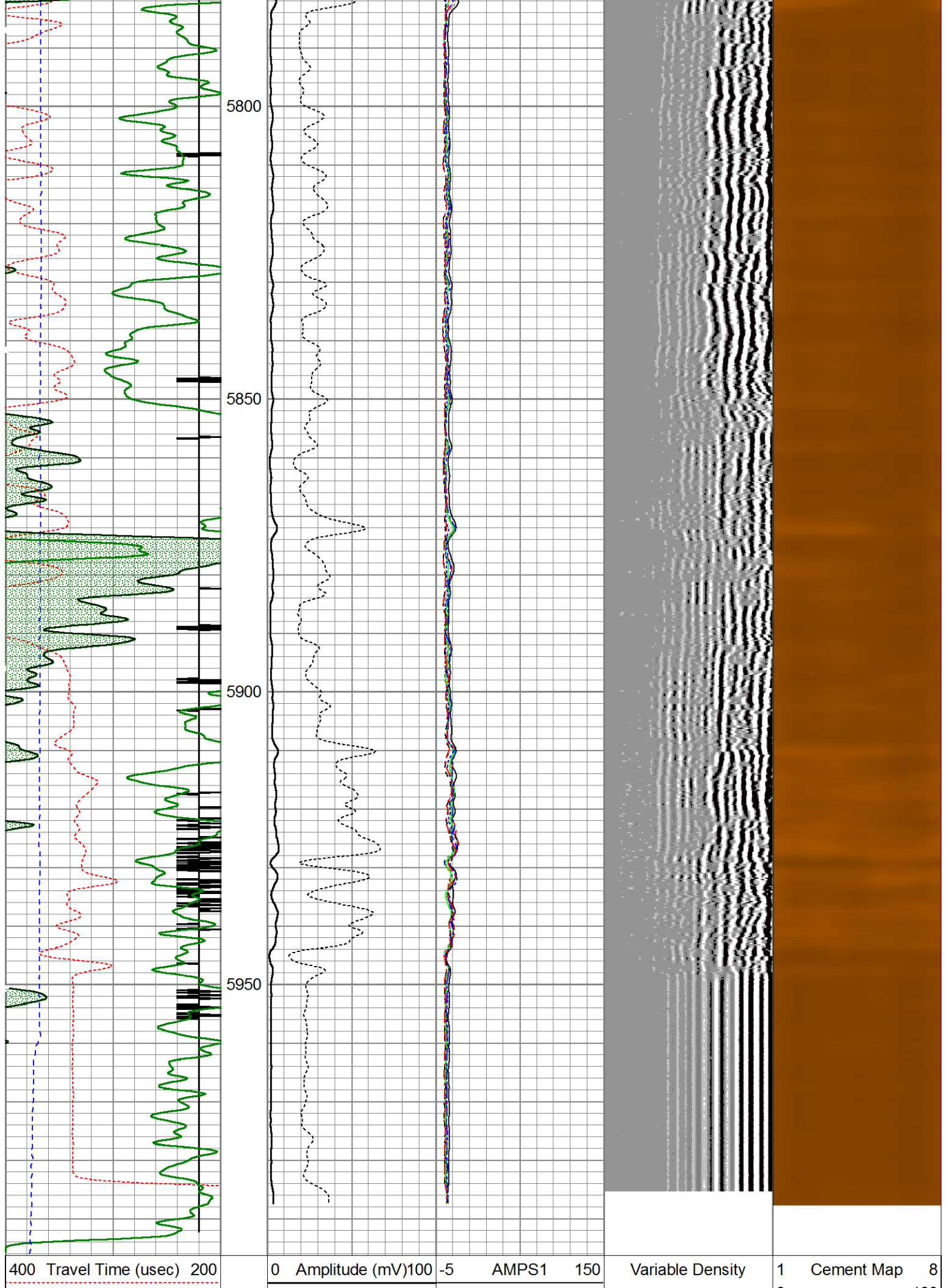
Repeat Section (0 PSI)

Database File: c:\warrior\data\noble\castor federal ld15-74hn_rcbl\noble castor federal ld15-74hn_rcbl.db
 Dataset Pathname: pass3
 Presentation Format: scbl03
 Dataset Creation: Fri Jan 24 11:07:17 2014 by Log 0
 Charted by: Depth in Feet scaled 1:240



-5	AMPS6	150
-5	AMPS7	150
-5	AMPS8	150





9	Casing Collar	-1	Amplified Amplitude	-5	AMPS2	150	200	1200	0	100
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	AMPS3	150		
0	Line Tension (lb)	5000				-5	AMPS4	150		
						-5	AMPS5	150		
						-5	AMPS6	150		
						-5	AMPS7	150		
						-5	AMPS8	150		

Calibration Report				
Database File:	c:\warrior\data\noble\castor federal ld15-74hn_rcbl\noble castor federal ld15-74hn_rcbl.db			
Dataset Pathname:	pass4.1			
Dataset Creation:	Fri Jan 24 12:20:14 2014 by Calc 0			
Gamma Ray Calibration Report				
Serial Number:	111111			
Tool Model:	Probe275			
Performed:	Sun Jun 13 13:33:21 1993			
Calibrator Value:	1.0	GAPI		
Background Reading:	0.0	cps		
Calibrator Reading:	1.0	cps		
Sensitivity:	1.0000	GAPI/cps		
Temperature Calibration Report				
Serial Number:	111111			
Tool Model:	Probe275			
Performed:	Sun Jun 13 13:33:21 1993			
	Reference		Reading	
Low Reference:	0.00	degF	0.00	cps
High Reference:	1.00	degF	1.00	cps
Gain:	1.00			
Offset:	0.00			
Delta Spacing	2			
Segmented Cement Bond Log Calibration Report				
Serial Number:	111107			
Tool Model:	Probe			
Calibration Casing Diameter:	7.000	in		
Calibration Depth:	950.640	ft		

Master Calibration, performed Fri Jan 24 12:20:08 2014:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.021	0.725	1.000	62.165	81.908	2.759
CAL	-0.026	0.920				
5'	-0.006	0.402	1.000	62.165	149.854	1.867
SUM						
S1	0.003	0.731	0.000	100.000	137.485	-0.476
S2	-0.018	0.772	0.000	100.000	126.574	2.272
S3	-0.021	0.704	0.000	100.000	137.937	2.829
S4	0.023	0.730	0.000	100.000	132.857	3.002

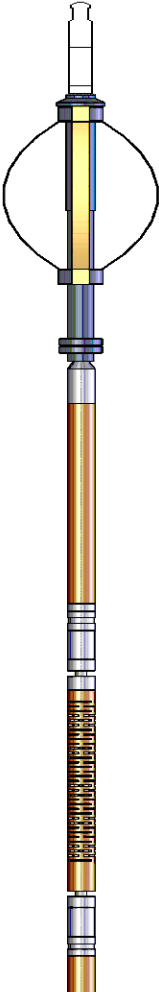

S4	-0.023	0.677	0.000	100.000	152.657	3.002
S5	-0.023	0.677	0.000	100.000	142.766	3.314
S6	-0.015	0.637	0.000	100.000	153.427	2.252
S7	-0.010	0.618	0.000	100.000	159.298	1.629
S8	-0.015	0.616	0.000	100.000	158.639	2.347

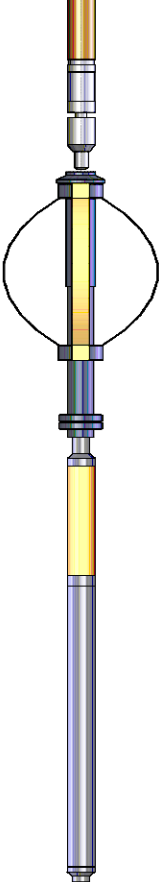
Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.026	0.920	1.000	0.000

Air Zero Calibration, performed Fri Jan 24 08:41:46 2014:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.000		0.000		0.000	
5'	0.000		0.000		0.000	
SUM						
S1	0.000		0.000		0.000	
S2	0.000		0.000		0.000	
S3	0.000		0.000		0.000	
S4	0.000		0.000		0.000	
S5	0.000		0.000		0.000	
S6	0.000		0.000		0.000	
S7	0.000		0.000		0.000	
S8	0.000		0.000		0.000	

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			Titan Cable_head	1.00	1.44	10.00
			Probe275 2.75" Centralizer	2.88	2.75	20.00
			RBT-Probe (111107) Probe Radii Bond Tool with Digital Telemetry	8.75	2.75	90.00
WVF3FT	11.84					
WVFCAL	11.84					
WVFS1	11.84					
WVFS2	11.84					
WVFS3	11.84					
WVFS4	11.84					

WVFS5	11.84		2.88	2.75	20.00
WVFS6	11.84				
WVFS7	11.84				
WVFS8	11.84				
WVF5FT	10.84				
CCL	3.88				
TEMP	3.00				
GR	2.54	GR-Probe275 (111111) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00
Dataset: noble castor federal ld15-74hn_rcbl.db: field/well/run1/pass4.1 Total Length: 20.28 ft Total Weight: 197.00 lb O.D. 2.75 in					